

Application/Control Number: 95/000,444

Page 74

Art Unit: 3993

**modulus in a range of about 1,000 to about 30,000 psi** (from "outer layer . . . such as type 1855 Surlyn" of Nesbitt at col. 2, lines 40-49 in that from the disclosure in Sullivan '381, the patent at issue, at col. 2, lines 44-61, that 1855 Surlyn has a flexural modulus of 14,000 psi ). Not disclosed is the inner cover layer ionomer being at least 16% by weight of an alpha, beta-unsaturated carboxylic acid; and, the outer cover layer ionomer resin comprising a blend of i) a sodium or zinc salt of a copolymer having from 2 to 8 carbon atoms and an unsaturated monocarboxylic acid having from 3 to 8 carbon atoms, and ii) a sodium or zinc salt of a terpolymer of an olefin having 2 to 8 carbon atoms, acrylic acid and an unsaturated monomer of the acrylate ester class having from 1 to 21 carbon atoms. However, Yabuki discloses a golf ball with a cover layer **comprising an ionomer resin** (from "ESCOR EX 951, 562, 900" of col. 3, lines 10-14) **including at least 16% by weight of an alpha, beta-unsaturated carboxylic acid** (from "ESCOR EX 951, 562, 900" of col. 3, lines 10-14); Sullivan '814 discloses a golf ball with a cover layer **comprising a blend** ("blending of a high modulus (hard) ionomer with a low modulus (soft) ionomer to produce a base ionomer mixture" of col. 4, lines 4-8) **of i) a sodium or zinc salt of a copolymer having from 2 to 8 carbon atoms and an unsaturated monocarboxylic acid having from 3 to 8 carbon atoms** (col. 4, lines 25-31), **and ii) a sodium or zinc salt of a terpolymer of an olefin having 2 to 8 carbon atoms, acrylic acid and an unsaturated monomer of the acrylate ester class having from 1 to 21 carbon atoms** (from "sodium or zinc salt of a terpolymer of an olefin having from 2 to 8 carbon atoms, an unsaturated monocarboxylic acid having 3 to 8 carbon atoms and an unsaturated monomer of the acrylate ester class having from 2 to 22 carbon atoms" of col. 4, lines 48-53). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the golf ball of Nesbitt by

Application/Control Number: 95/000,444

Page 75

Art Unit: 3993

using the cover layer of Yabuki for Nesbitt's inner cover layer so as to have a ball with superior flying performance (Yabuki at col. 4, lines 5-10); and to further modify by using the cover layer of Sullivan '814 for Nesbitt's outer cover layer so as to have a ball with cut resistance and adequate back spin for the skilled golfer (Sullivan '814 at col. 3, lines 46-55).

#### Ground 59.

Requester submits on the middle of 86 to the middle of page 88 of the Request that claim 8 is unpatentable under 35 USC 103(a) as being obvious over Nesbitt in view of Statz in further view of Sullivan '814. This proposed rejection is **adopted with modification**.

As to claim 8, Nesbitt discloses a **multi-layer golf ball** (abstract and Fig. 1) **comprising: a spherical core** (12 of Figs. 1 and 2); **an inner cover layer** (14 of Figs. 1 and 2) **molded over said spherical core** (shown in Figs. 1 and 2; "molded" on col. 2, lines 34-39) **to form a spherical intermediate ball** (after "molded" there is formed an intermediate ball); **said inner cover layer comprising an ionomer resin** (from "1605 Surlyn" of col. 2, lines 34-39) **having a modulus of from about 15,000 to about 70,000 psi** (from the disclosure in Sullivan '381, the patent at issue, at col. 2, lines 44-61, that 1605 Surlyn has a flexural modulus of 51,000 psi); **and, an outer cover layer** (16 of Figs. 1 and 2) **molded** (shown in Figs. 1 and 2; from "then re-molded onto the inner ply or layer 14" col. 2, lines 40-49) **over said spherical intermediate ball to form a multi-layer golf ball** (shown in Figs. 1 and 2), **said outer cover layer having a modulus in a range of about 1,000 to about 30,000 psi** (from "outer layer . . . such as type 1855 Surlyn" of Nesbitt at col. 2, lines 40-49 in that from the disclosure in Sullivan '381, the patent at issue, at col. 2, lines 44-61, that 1855 Surlyn has a flexural modulus of 14,000 psi ).

Application/Control Number: 95/000,444

Page 76

Art Unit: 3993

Not disclosed is the inner cover layer ionomer being at least 16% by weight of an alpha, beta-unsaturated carboxylic acid; and, the outer cover layer ionomer resin comprising a blend of i) a sodium or zinc salt of a copolymer having from 2 to 8 carbon atoms and an unsaturated monocarboxylic acid having from 3 to 8 carbon atoms, and ii) a sodium or zinc salt of a terpolymer of an olefin having 2 to 8 carbon atoms, acrylic acid and an unsaturated monomer of the acrylate ester class having from 1 to 21 carbon atoms. However, Statz discloses a golf ball with a cover layer **comprising an ionomer resin** (from “‘Surlyn’ ionomers resins” of page 206) **including at least 16% by weight of an alpha, beta-unsaturated carboxylic acid** (from “‘Surlyn’ ionomers resins are produced by the high pressure polymerization of ethylene and methacrylic acid followed by the subsequent neutralization of the polymerized acids with a cation source such as sodium hydroxide” of page 206, and, “However, new ionomers have been produced on an experimental basis with up to 20% copolymerized acid” of page 209); Sullivan ‘814 discloses a golf ball with a cover layer **comprising a blend** (“blending of a high modulus (hard) ionomer with a low modulus (soft) ionomer to produce a base ionomer mixture” of col. 4, lines 4-8) **of i) a sodium or zinc salt of a copolymer having from 2 to 8 carbon atoms and an unsaturated monocarboxylic acid having from 3 to 8 carbon atoms** (col. 4, lines 25-31), and **ii) a sodium or zinc salt of a terpolymer of an olefin having 2 to 8 carbon atoms, acrylic acid and an unsaturated monomer of the acrylate ester class having from 1 to 21 carbon atoms** (from “sodium or zinc salt of a terpolymer of an olefin having from 2 to 8 carbon atoms, an unsaturated monocarboxylic acid having 3 to 8 carbon atoms and an unsaturated monomer of the acrylate ester class having from 2 to 22 carbon atoms” of col. 4, lines 48-53). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the golf ball of

Application/Control Number: 95/000,444

Page 77

Art Unit: 3993

Nesbitt by using the cover layer of Statz for Nesbitt's inner cover layer so as to have a ball that is harder, stiffer, with advantage in coefficient of restitution, and possibly in velocity off the club (Statz at page 209); and to further modify by using the cover layer of Sullivan '814 for Nesbitt's outer cover layer so as to have a ball with cut resistance and adequate back spin for the skilled golfer (Sullivan '814 at col. 3, lines 46-55).

**Ground 60.**

Requester submits on the middle of 86 to the middle of page 88 of the Request that claim 8 is unpatentable under 35 USC 103(a) as being obvious over Nesbitt in view of Research Disclosure in further view of Sullivan '814. This proposed rejection is **adopted with modification.**

As to claim 8, Nesbitt discloses a **multi-layer golf ball** (abstract and Fig. 1) **comprising: a spherical core** (12 of Figs. 1 and 2); **an inner cover layer** (14 of Figs. 1 and 2) **molded over said spherical core** (shown in Figs. 1 and 2; "molded" on col. 2, lines 34-39) **to form a spherical intermediate ball** (after "molded" there is formed an intermediate ball); **said inner cover layer comprising an ionomer resin** (from "1605 Surlyn" of col. 2, lines 34-39) **having a modulus of from about 15,000 to about 70,000 psi** (from the disclosure in Sullivan '381, the patent at issue, at col. 2, lines 44-61, that 1605 Surlyn has a flexural modulus of 51,000 psi); **and, an outer cover layer** (16 of Figs. 1 and 2) **molded** (shown in Figs. 1 and 2; from "then re-molded onto the inner ply or layer 14" col. 2, lines 40-49) **over said spherical intermediate ball to form a multi-layer golf ball** (shown in Figs. 1 and 2), **said outer cover layer having a modulus in a range of about 1,000 to about 30,000 psi** (from "outer layer . . . such as type

Application/Control Number: 95/000,444

Page 78

Art Unit: 3993

1855 Surlyn" of Nesbitt at col. 2, lines 40-49 in that from the disclosure in Sullivan '381, the patent at issue, at col. 2, lines 44-61, that 1855 Surlyn has a flexural modulus of 14,000 psi ).

Not disclosed is the inner cover layer ionomer being at least 16% by weight of an alpha, beta-unsaturated carboxylic acid; and, the outer cover layer ionomer resin comprising a blend of i) a sodium or zinc salt of a copolymer having from 2 to 8 carbon atoms and an unsaturated monocarboxylic acid having from 3 to 8 carbon atoms, and ii) a sodium or zinc salt of a terpolymer of an olefin having 2 to 8 carbon atoms, acrylic acid and an unsaturated monomer of the acrylate ester class having from 1 to 21 carbon atoms. However, Research Disclosure discloses a golf ball with a cover layer **comprising an ionomer resin** (from "[i]onomers" of 2<sup>nd</sup> page) **including at least 16% by weight of an alpha, beta-unsaturated carboxylic acid** (from "Ionomers produced from polymers of ethylene acrylic/methacrylic acid containing greater than 15 wt % acid can be used to produce molded articles with superior properties" of 2<sup>nd</sup> page);

Sullivan '814 discloses a golf ball with a cover layer **comprising a blend** ("blending of a high modulus (hard) ionomer with a low modulus (soft) ionomer to produce a base ionomer mixture" of col. 4, lines 4-8) **of i) a sodium or zinc salt of a copolymer having from 2 to 8 carbon atoms and an unsaturated monocarboxylic acid having from 3 to 8 carbon atoms** (col. 4, lines 25-31), **and ii) a sodium or zinc salt of a terpolymer of an olefin having 2 to 8 carbon atoms, acrylic acid and an unsaturated monomer of the acrylate ester class having from 1 to 21 carbon atoms** (from "sodium or zinc salt of a terpolymer of an olefin having from 2 to 8 carbon atoms, an unsaturated monocarboxylic acid having 3 to 8 carbon atoms and an unsaturated monomer of the acrylate ester class having from 2 to 22 carbon atoms" of col. 4, lines 48-53). It would have been obvious to one of ordinary skill in the art at the time of the

Application/Control Number: 95/000,444

Page 79

Art Unit: 3993

invention to modify the golf ball of Nesbitt by using the cover layer of Research Disclosure at least 16% acid for Nesbitt's inner cover layer so as to have a ball with stiffness, hardness, and clarity (Research Disclosure at 2<sup>nd</sup> page); and to further modify by using the cover layer of Sullivan '814 for Nesbitt's outer cover layer so as to have a ball with cut resistance and adequate back spin for the skilled golfer (Sullivan '814 at col. 3, lines 46-55).

#### **Ground 61.**

Requester submits on the middle of page 81 to the middle of page 83 of the Request that claim 8 is unpatentable under 35 USC 103(a) as being obvious over Viollaz in view of Horiuchi in further view of Sullivan '814. This proposed rejection is **adopted with modification**.

As to claim 8, Viollaz discloses a **multi-layer golf ball** (abstract and Figure) **comprising: a spherical core** (1 of Fig.); **an inner cover layer** (2 of Fig.) **molded over said spherical core** (shown in Fig.) **to form a spherical intermediate ball** (from "assembly of the two parts 1 and 2 forming the internal structure of the ball" of page 5); **said inner cover layer having a modulus of from about 15,000 to about 70,000 psi** (from "Elastic modulus" of "Intermediate Layer" of "150 N/mm<sup>2</sup>" which is 21,756 psi of "Ball 07" of "Table III" of page 9); **and, an outer cover layer** (3 of Fig.) **molded (shown in Fig.) over said spherical intermediate ball to form a multi-layer golf ball** (shown in Fig.), **said outer cover layer having a modulus in a range of about 1,000 to about 30,000 psi** (from "Elastic modulus" of "Thermoplastic Envelope" of "120 N/mm<sup>2</sup>" which is 17,405 psi of "Ball 07" of "Table III" of page 9). Not disclosed is the inner cover layer comprising an ionomer resin being at least 16% by weight of an alpha, beta-unsaturated carboxylic acid; and, the outer cover layer ionomer

Application/Control Number: 95/000,444

Page 80

Art Unit: 3993

resin comprising a blend of i) a sodium or zinc salt of a copolymer having from 2 to 8 carbon atoms and an unsaturated monocarboxylic acid having from 3 to 8 carbon atoms, and ii) a sodium or zinc salt of a terpolymer of an olefin having 2 to 8 carbon atoms, acrylic acid and an unsaturated monomer of the acrylate ester class having from 1 to 21 carbon atoms. However, Horiuchi discloses a golf ball with a cover layer **comprising an ionomer resin** (from "carboxyl-rich ionomer resin" of col. 1, lines 31-36) **including at least 16% by weight of an alpha, beta-unsaturated carboxylic acid** (from "alpha, beta-ethylenic unsaturated carboxylic acid limited to 16 to 30 % by weight" of col. 1, lines 50-54); Sullivan '814 discloses a golf ball with a cover layer **comprising a blend** ("blending of a high modulus (hard) ionomer with a low modulus (soft) ionomer to produce a base ionomer mixture" of col. 4, lines 4-8) **of i) a sodium or zinc salt of a copolymer having from 2 to 8 carbon atoms and an unsaturated monocarboxylic acid having from 3 to 8 carbon atoms** (col. 4, lines 25-31), **and ii) a sodium or zinc salt of a terpolymer of an olefin having 2 to 8 carbon atoms, acrylic acid and an unsaturated monomer of the acrylate ester class having from 1 to 21 carbon atoms** (from "sodium or zinc salt of a terpolymer of an olefin having from 2 to 8 carbon atoms, an unsaturated monocarboxylic acid having 3 to 8 carbon atoms and an unsaturated monomer of the acrylate ester class having from 2 to 22 carbon atoms" of col. 4, lines 48-53). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the golf ball of Viollaz by using the cover layer of Horiuchi with 16% acid for Viollaz's inner cover layer so as to have a ball with excellent impact resilience and flying performance (Horiuchi at col. 1, lines 5-10) at the required modulus; and to further modify by using the cover layer of Sullivan '814 for Viollaz's

Application/Control Number: 95/000,444

Page 81

Art Unit: 3993

outer cover layer so as to have a ball with cut resistance and adequate back spin for the skilled golfer (Sullivan '814 at col. 3, lines 46-55) at the required modulus.

**Ground 62.**

Requester submits on page 84 to the middle of page 85 of the Request that claim 8 is unpatentable under 35 USC 103(a) as being obvious over Viollaz in view of Yabuki in further view of Sullivan '814. This proposed rejection is **adopted with modification**.

As to claim 8, Viollaz discloses **a multi-layer golf ball (abstract and Figure) comprising: a spherical core (1 of Fig.); an inner cover layer (2 of Fig.) molded over said spherical core (shown in Fig.) to form a spherical intermediate ball (from "assembly of the two parts 1 and 2 forming the internal structure of the ball" of page 5); said inner cover layer having a modulus of from about 15,000 to about 70,000 psi (from "Elastic modulus" of "Intermediate Layer" of "150 N/mm<sup>2</sup>" which is 21,756 psi of "Ball 07" of "Table III" of page 9); and, an outer cover layer (3 of Fig.) molded (shown in Fig.) over said spherical intermediate ball to form a multi-layer golf ball (shown in Fig.), said outer cover layer having a modulus in a range of about 1,000 to about 30,000 psi (from "Elastic modulus" of "Thermoplastic Envelope" of "120 N/mm<sup>2</sup>" which is 17,405 psi of "Ball 07" of "Table III" of page 9). Not disclosed is the inner cover layer comprising an ionomer resin being at least 16% by weight of an alpha, beta-unsaturated carboxylic acid; and, the outer cover layer ionomer resin comprising a blend of i) a sodium or zinc salt of a copolymer having from 2 to 8 carbon atoms and an unsaturated monocarboxylic acid having from 3 to 8 carbon atoms, and ii) a sodium or zinc salt of a terpolymer of an olefin having 2 to 8 carbon atoms, acrylic acid and an**



Application/Control Number: 95/000,444

Page 82

Art Unit: 3993

unsaturated monomer of the acrylate ester class having from 1 to 21 carbon atoms. However, Yabuki discloses a golf ball with a cover layer **comprising an ionomer resin including at least 16% by weight of an alpha, beta-unsaturated carboxylic acid** (from "ESCOR EX 951, 562, 900" of col. 3, lines 10-14 and Table 1); Sullivan '814 discloses a golf ball with a cover layer **comprising a blend** ("blending of a high modulus (hard) ionomer with a low modulus (soft) ionomer to produce a base ionomer mixture" of col. 4, lines 4-8) **of i) a sodium or zinc salt of a copolymer having from 2 to 8 carbon atoms and an unsaturated monocarboxylic acid having from 3 to 8 carbon atoms** (col. 4, lines 25-31), **and ii) a sodium or zinc salt of a terpolymer of an olefin having 2 to 8 carbon atoms, acrylic acid and an unsaturated monomer of the acrylate ester class having from 1 to 21 carbon atoms** (from "sodium or zinc salt of a terpolymer of an olefin having from 2 to 8 carbon atoms, an unsaturated monocarboxylic acid having 3 to 8 carbon atoms and an unsaturated monomer of the acrylate ester class having from 2 to 22 carbon atoms" of col. 4, lines 48-53). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the golf ball of Viollaz by using the cover layer of Yabuki for Viollaz's inner cover layer so as to have a ball with superior flying performance (Yabuki at col. 4, lines 5-10) at the required modulus; and to further modify by using the cover layer of Sullivan '814 for Viollaz's outer cover layer so as to have a ball with cut resistance and adequate back spin for the skilled golfer (Sullivan '814 at col. 3, lines 46-55) at the required modulus.

**Ground 63.**

Application/Control Number: 95/000,444

Page 83

Art Unit: 3993

Requester submits on the bottom of page 88 to the top of page 91 of the Request that claim 8 is unpatentable under 35 USC 103(a) as being obvious over Viollaz in view of Statz in further view of Sullivan '814. This proposed rejection is **not adopted**.

MPEP 2145(X)(D)(1) states that "[a] prior art reference that 'teaches away' from the claimed invention is a significant factor to be considered in determining obviousness." Here the claim goes to a golf ball with a core, an inner cover layer comprising an ionomer resin including at least 16% carboxylic acid and a modulus of from about 15,000 to about 70,000 psi, and an outer cover layer of an ionomer bled with a modulus in a range of about 1,000 to about 30,000 psi.

In the proposed rejection Viollaz, the base reference, discloses (Request at page 89) a golf ball with a core, inner cover layer, and an outer cover layer. Viollaz further discloses golf balls with the required modulus ranges (for example "Ball 07" of "Table III") but uses low acid ionomers (from Viollaz at page 4, lines 10-35 continuing to page 5, line 1). Statz, the first teaching reference, is proposed to disclose a inner cover layer comprising an ionomeric resin with at least 16% carboxylic acid (Request at middle of page 89) and having a modulus of from about 15,000 to about 70,000 psi (Request at middle of page 89). However, Statz's disclosed ionomeric resins with at least 16% carboxylic acid (Request at bottom of page 209) have disclosed modulus values outside the ranged required by the claim (see Table of page 210 for "AD 8265" and "AD 8269" with modulus values of 7,000 and 2,500, respectively). With these disclosed modulus values for the high acid ionomers, Statz is considered to teach away from the claimed invention (regardless of the modulus values disclosed by Viollaz). Because Statz

Application/Control Number: 95/000,444  
Art Unit: 3993

Page 84

teaches away from the claim language of claim 8 the proposed combination of Viollaz in view of Statz is considered improper and the rejection is not adopted.

**Ground 64.**

Requester submits on the bottom of page 88 to the top of page 91 of the Request that claim 8 is unpatentable under 35 USC 103(a) as being obvious over Viollaz in view of Research Disclosure in further view of Sullivan '814. This proposed rejection is **not adopted**.

MPEP 706.02(IV) states that "in a rejection based on 35 U.S.C. 103, the reference teachings must somehow be modified in order to meet the claims." The Examiner considers this language to mean, *inter alia*, that all limitations are disclosed in the applied references.

Here the claim goes to a golf ball with a core, an inner cover layer comprising an ionomer resin including at least 16% carboxylic acid and a modulus of from about 15,000 to about 70,000 psi, and an outer cover layer of an ionomer bled with a modulus in a range of about 1,000 to about 30,000 psi. In the proposed rejection Viollaz, the based reference, discloses (Request at page 89) a golf ball with a core, inner cover layer, and an outer cover layer. Viollaz further discloses golf balls with the required modulus ranges (for example "Ball 07" of "Table III") but uses low acid ionomers (from Viollaz at page 4, lines 10-35 continuing to page 5, line 1).

Research Disclosure, the first teaching reference, is proposed to disclose a inner cover layer comprising an ionomeric resin with at least 16% carboxylic acid (Request at middle of page 89) Research Disclosure is not proposed to disclose a modulus of from about 15,000 to about 70,000 psi (Request at middle of page 89). Further, a review of Research Disclosure found that it does

Application/Control Number: 95/000,444  
Art Unit: 3993

Page 85

not disclose any specific modulus values, only that high acid ionomers have "significantly improved stiffness, hardness, and clarity compared to [low acid ionomers]."

With no proposed or disclosed modulus values in Research Disclosure, the Examiner declines to ascribe a specific modulus value to its disclosed high acid ionomers (regardless of the modulus values disclosed by Viollaz). Because the combination of Viollaz as modified by Research Disclosure fails to disclose a modulus value required by the language of claim 8 the proposed rejection is not adopted.

*Claim 9*

**Ground 65.**

Requester submits on the middle of page 93 to the middle of page 95 of the Request that claim 9 is unpatentable under 35 USC 103(a) as being obvious over Nesbitt (incorporating Molitor '637) in view of Horiuchi. This proposed rejection is **adopted with modification**.

As to claim 9, Nesbitt discloses **a multi-layer golf ball** (abstract and Fig. 1) **comprising: a spherical core** (12 of Figs. 1 and 2); **an inner cover layer** (14 of Figs. 1 and 2) **molded over said spherical core** (shown in Figs. 1 and 2; "molded" on col. 2, lines 34-39) **to form a spherical intermediate ball** (after "molded" there is formed an intermediate ball), **said inner cover layer comprising an ionomeric resin** (from "1605 Surlyn" of col. 2, lines 34-39) **and having a modulus of from about 15,000 to about 70,000 psi** (from the disclosure in Sullivan '381, the patent at issue, at col. 2, lines 44-61, that 1605 Surlyn has a flexural modulus of 51,000 psi); **an outer cover layer** (16 of Figs. 1 and 2) **molded over** (shown in Figs. 1 and 2; from

Application/Control Number: 95/000,444

Page 86

Art Unit: 3993

"then re-molded onto the inner ply or layer 14" col. 2, lines 40-49) **said spherical intermediate ball to form a multi-layer golf ball** (shown in Figs. 1 and 2), **the outer comprising a non-ionomeric thermoplastic** (from "synthetic polymeric material" of col. 3, lines 50-59) **selected from the group consisting of polyester elastomer, polyester polyurethane and polyester amide** ("polyurethanes" of col. 5, lines 33-55, of Molitor '637 by incorporation by reference of Nesbitt at col. 3, lines 50-60), **said outer cover layer having a modulus in a range of about 1,000 to about 30,000 psi** (from "outer layer . . . such as type 1855 Surlyn" of Nesbitt at col. 2, lines 40-49 in that from the disclosure in Sullivan '381, the patent at issue, at col. 2, lines 44-61, 1855 Surlyn has a flexural modulus of 14,000 psi ). Not disclosed is the ionomeric resin including about 17% to about 25% by weight of an alpha, beta-unsaturated carboxylic acid. However, Horiuchi discloses a golf ball with a cover layer **comprising an ionomer resin** (from "carboxyl-rich ionomer resin" of col. 1, lines 31-36) **including about 17% to about 25% by weight of an alpha, beta-unsaturated carboxylic acid** (from "alpha, beta-ethylenic unsaturated carboxylic acid limited to 16 to 30 % by weight" of col. 1, lines 50-54). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the golf ball of Nesbitt by using the cover layer of Horiuchi for Nesbitt's inner cover layer so as to have a ball with excellent impact resilience and flying performance (Horiuchi at col. 1, lines 5-10).

**Ground 66.**

Requester submits on the bottom of page 98 to the top of page 100 of the Request that claim 9 is unpatentable under 35 USC 103(a) as being obvious over Nesbitt (incorporating Molitor '637) in view of Yabuki. This proposed rejection is **adopted with modification**.

Application/Control Number: 95/000,444  
Art Unit: 3993

Page 87

As to claim 9, Nesbitt discloses **a multi-layer golf ball** (abstract and Fig. 1) **comprising:**  
**a spherical core** (12 of Figs. 1 and 2); **an inner cover layer** (14 of Figs. 1 and 2) **molded over**  
**said spherical core** (shown in Figs. 1 and 2; "molded" on col. 2, lines 34-39) **to form a**  
**spherical intermediate ball** (after "molded" there is formed an intermediate ball), **said inner**  
**cover layer comprising an ionomeric resin** (from "1605 Surlyn" of col. 2, lines 34-39) **and**  
**having a modulus of from about 15,000 to about 70,000 psi** (from the disclosure in Sullivan  
'381, the patent at issue, at col. 2, lines 44-61, that 1605 Surlyn has a flexural modulus of 51,000  
psi); **an outer cover layer** (16 of Figs. 1 and 2) **molded over** (shown in Figs. 1 and 2; from  
"then re-molded onto the inner ply or layer 14" col. 2, lines 40-49) **said spherical intermediate**  
**ball to form a multi-layer golf ball** (shown in Figs. 1 and 2), **the outer comprising a non-**  
**ionomeric thermoplastic** (from "synthetic polymeric material" of col. 3, lines 50-59) **selected**  
**from the group consisting of polyester elastomer, polyester polyurethane and polyester**  
**amide** ("polyurethanes" of col. 5, lines 33-55, of Molitor '637 by incorporation by reference of  
Nesbitt at col. 3, lines 50-60), **said outer cover layer having a modulus in a range of about**  
**1,000 to about 30,000 psi** (from "outer layer . . . such as type 1855 Surlyn" of Nesbitt at col. 2,  
lines 40-49 in that from the disclosure in Sullivan '381, the patent at issue, at col. 2, lines 44-61,  
1855 Surlyn has a flexural modulus of 14,000 psi ). Not disclosed is the ionomeric resin  
including about 17% to about 25% by weight of an alpha, beta-unsaturated carboxylic acid.  
However, Yabuki discloses a golf ball with a cover layer **comprising an ionomer resin** (from  
"ESCOR EX 951, 562, 900" of col. 3, lines 10-14) **including about 17% to about 25% by**  
**weight of an alpha, beta-unsaturated carboxylic acid** (from "ESCOR EX 951, 562, 900" of  
col. 3, lines 10-14). It would have been obvious to one of ordinary skill in the art at the time of

Application/Control Number: 95/000,444

Page 88

Art Unit: 3993

the invention to modify the golf ball of Nesbitt by using the cover layer of Yabuki for Nesbitt's inner cover layer so as to have a ball with superior flying performance (Yabuki at col. 4, lines 5-10).

#### **Ground 67.**

Requester submits on the middle of page 93 to the middle of page 95 of the Request (same rejection as for Nesbitt (incorporating Molitor '617) and Horiuchi) that claim 9 is unpatentable under 35 USC 103(a) as being obvious over Nesbitt (incorporating Molitor '637) in view of Statz. This proposed rejection is **adopted with modification.**

As to claim 9, Nesbitt discloses **a multi-layer golf ball** (abstract and Fig. 1) **comprising: a spherical core** (12 of Figs. 1 and 2); **an inner cover layer** (14 of Figs. 1 and 2) **molded over said spherical core** (shown in Figs. 1 and 2; "molded" on col. 2, lines 34-39) **to form a spherical intermediate ball** (after "molded" there is formed an intermediate ball), **said inner cover layer comprising an ionomeric resin** (from "1605 Surlyn" of col. 2, lines 34-39) **and having a modulus of from about 15,000 to about 70,000 psi** (from the disclosure in Sullivan '381, the patent at issue, at col. 2, lines 44-61, that 1605 Surlyn has a flexural modulus of 51,000 psi); **an outer cover layer** (16 of Figs. 1 and 2) **molded over** (shown in Figs. 1 and 2; from "then re-molded onto the inner ply or layer 14" col. 2, lines 40-49) **said spherical intermediate ball to form a multi-layer golf ball** (shown in Figs. 1 and 2), **the outer comprising a non-ionomeric thermoplastic** (from "synthetic polymeric material" of col. 3, lines 50-59) **selected from the group consisting of polyester elastomer, polyester polyurethane and polyester amide** ("polyurethanes" of col. 5, lines 33-55, of Molitor '637 by incorporation by reference of

Application/Control Number: 95/000,444

Page 89

Art Unit: 3993

Nesbitt at col. 3, lines 50-60), **said outer cover layer having a modulus in a range of about 1,000 to about 30,000 psi** (from “outer layer . . . such as type 1855 Surlyn” of Nesbitt at col. 2, lines 40-49 in that from the disclosure in Sullivan ‘381, the patent at issue, at col. 2, lines 44-61, 1855 Surlyn has a flexural modulus of 14,000 psi ). Not disclosed is the ionomeric resin including about 17% to about 25% by weight of an alpha, beta-unsaturated carboxylic acid. However, Statz discloses a golf ball with a cover layer **comprising an ionomer resin** (from “‘Surlyn’ ionomers resins” of page 206) **including about 17% to about 25% by weight of an alpha, beta-unsaturated carboxylic acid** (from “‘Surlyn’ ionomers resins are produced by the high pressure polymerization of ethylene and methacrylic acid followed by the subsequent neutralization of the polymerized acids with a cation source such as sodium hydroxide” of page 206, and, “However, new ionomers have been produced on an experimental basis with up to 20% copolymerized acid” of page 209). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the golf ball of Nesbitt by using the cover layer of Statz for Nesbitt’s inner cover layer so as to have a ball that is harder, stiffer, with advantage in coefficient of restitution, and possibly in velocity off the club (Statz at page 209).

**Ground 68.**

Requester submits on middle of page 96 to the top of page 98 of the Request that claim 9 is unpatentable under 35 USC 103(a) as being obvious over Nesbitt in view of Horiuchi in further view of Molitor ‘751. This proposed rejection is **adopted with modification**.

As to claim 9, Nesbitt discloses **a multi-layer golf ball** (abstract and Fig. 1) **comprising: a spherical core** (12 of Figs. 1 and 2); **an inner cover layer** (14 of Figs. 1 and 2) **molded over**



Application/Control Number: 95/000,444

Page 90

Art Unit: 3993

said **spherical core** (shown in Figs. 1 and 2; "molded" on col. 2, lines 34-39) **to form a spherical intermediate ball** (after "molded" there is formed an intermediate ball); **said inner cover layer comprising an ionomer resin** (from "1605 Surlyn" of col. 2, lines 34-39) **having a modulus of from about 15,000 to about 70,000 psi** (from the disclosure in Sullivan '381, the patent at issue, at col. 2, lines 44-61, that 1605 Surlyn has a flexural modulus of 51,000 psi); **an outer cover layer** (16 of Figs. 1 and 2) **molded over** (shown in Figs. 1 and 2; from "then re-molded onto the inner ply or layer 14" col. 2, lines 40-49) **said spherical intermediate ball to form a multi-layer golf ball** (shown in Figs. 1 and 2), **the outer comprising a non-ionomeric thermoplastic** (from "synthetic polymeric material" of col. 3, lines 50-59), **said outer cover layer having a modulus in a range of about 1,000 to about 30,000 psi** (from "outer layer . . . such as type 1855 Surlyn" of Nesbitt at col. 2, lines 40-49 in that from the disclosure in Sullivan '381, the patent at issue, at col. 2, lines 44-61, 1855 Surlyn has a flexural modulus of 14,000 psi). Not disclosed is the ionomeric resin including about 17% to about 25% by weight of an alpha, beta-unsaturated carboxylic acid; and, the non-ionomeric thermoplastic selected from the group consisting of polyester elastomer, polyester polyurethane , and polyester amide.

However, Horiuchi discloses a golf ball with a cover layer **comprising an ionomer resin** (from "carboxyl-rich ionomer resin" of col. 1, lines 31-36) **including about 17% to about 25% by weight of an alpha, beta-unsaturated carboxylic acid** (from "alpha, beta-ethylenic unsaturated carboxylic acid limited to 16 to 30 % by weight" of col. 1, lines 50-54); Molitor '751 discloses the **non-ionomeric thermoplastic** ("thermoplastic urethane" of col. 2, lines 38-42) **selected from the group consisting of polyester elastomer, polyester polyurethane , and polyester amide** ("thermoplastic polyurethane" and "low melting polyester or polyether chains" of col. 3,

Application/Control Number: 95/000,444

Page 91

Art Unit: 3993

lines 31-45). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the golf ball of Nesbitt by using the cover layer of Horiuchi for Nesbitt's inner cover layer so as to have a ball with excellent impact resilience and flying performance (Horiuchi at col. 1, lines 5-10); and to further modify by using the cover layer of Molitor '751 for Nesbitt's outer cover layer so as to have short iron playability properties and significant more durability than balata covers (Molitor '751 at col. 2, lines 58-64).

**Ground 69.**

Requester submits on bottom of page 100 to the middle of page 101 of the Request that claim 9 is unpatentable under 35 USC 103(a) as being obvious over Nesbitt in view of Yabuki in further view of Molitor '751. This proposed rejection is **adopted with modification**.

As to claim 9, Nesbitt discloses **a multi-layer golf ball** (abstract and Fig. 1) **comprising: a spherical core** (12 of Figs. 1 and 2); **an inner cover layer** (14 of Figs. 1 and 2) **molded over said spherical core** (shown in Figs. 1 and 2; "molded" on col. 2, lines 34-39) **to form a spherical intermediate ball** (after "molded" there is formed an intermediate ball); **said inner cover layer comprising an ionomer resin** (from "1605 Surlyn" of col. 2, lines 34-39) **having a modulus of from about 15,000 to about 70,000 psi** (from the disclosure in Sullivan '381, the patent at issue, at col. 2, lines 44-61, that 1605 Surlyn has a flexural modulus of 51,000 psi); **an outer cover layer** (16 of Figs. 1 and 2) **molded over** (shown in Figs. 1 and 2; from "then re-molded onto the inner ply or layer 14" col. 2, lines 40-49) **said spherical intermediate ball to form a multi-layer golf ball** (shown in Figs. 1 and 2), **the outer comprising a non-ionomeric thermoplastic** (from "synthetic polymeric material" of col. 3, lines 50-59), **said outer cover**

Application/Control Number: 95/000,444

Page 92

Art Unit: 3993

**layer having a modulus in a range of about 1,000 to about 30,000 psi** (from “outer layer . . . such as type 1855 Surlyn” of Nesbitt at col. 2, lines 40-49 in that from the disclosure in Sullivan ‘381, the patent at issue, at col. 2, lines 44-61, 1855 Surlyn has a flexural modulus of 14,000 psi). Not disclosed is the ionomeric resin including about 17% to about 25% by weight of an alpha, beta-unsaturated carboxylic acid; and, the non-ionomeric thermoplastic selected from the group consisting of polyester elastomer, polyester polyurethane , and polyester amide.

However, Yabuki discloses a golf ball with a cover layer **comprising an ionomer resin including about 17% to about 25% by weight of an alpha, beta-unsaturated carboxylic acid** (from “ESCOR EX 951, 562, 900” of col. 3, lines 10-14 and Table 1); Molitor ‘751 discloses **the non-ionomeric thermoplastic** (“thermoplastic urethane” of col. 2, lines 38-42) **selected from the group consisting of polyester elastomer, polyester polyurethane , and polyester amide** (“thermoplastic polyurethane” and “low melting polyester or polyether chains” of col. 3, lines 31-45). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the golf ball of Nesbitt by using the cover layer of Yabuki for Nesbitt’s inner cover layer so as to have a ball with superior flying performance (Yabuki at col. 4, lines 5-10); and to further modify by using the cover layer of Molitor ‘751 for Nesbitt’s outer cover layer so as to have short iron playability properties and significant more durability than balata covers (Molitor ‘751 at col. 2, lines 58-64).

#### **Ground 70.**

Requester submits on middle of page 96 to the top of page 98 of the Request (same rejection as for Nesbitt, Horiuchi, and Molitor ‘751) that claim 9 is unpatentable under 35 USC

Application/Control Number: 95/000,444

Page 93

Art Unit: 3993

103(a) as being obvious over Nesbitt in view of Statz in further view of Molitor '751. This proposed rejection is **adopted with modification**.

As to claim 9, Nesbitt discloses a **multi-layer golf ball** (abstract and Fig. 1) **comprising: a spherical core** (12 of Figs. 1 and 2); **an inner cover layer** (14 of Figs. 1 and 2) **molded over said spherical core** (shown in Figs. 1 and 2; "molded" on col. 2, lines 34-39) **to form a spherical intermediate ball** (after "molded" there is formed an intermediate ball); **said inner cover layer comprising an ionomer resin** (from "1605 Surlyn" of col. 2, lines 34-39) **having a modulus of from about 15,000 to about 70,000 psi** (from the disclosure in Sullivan '381, the patent at issue, at col. 2, lines 44-61, that 1605 Surlyn has a flexural modulus of 51,000 psi); **an outer cover layer** (16 of Figs. 1 and 2) **molded over** (shown in Figs. 1 and 2; from "then re-molded onto the inner ply or layer 14" col. 2, lines 40-49) **said spherical intermediate ball to form a multi-layer golf ball** (shown in Figs. 1 and 2), **the outer comprising a non-ionomeric thermoplastic** (from "synthetic polymeric material" of col. 3, lines 50-59), **said outer cover layer having a modulus in a range of about 1,000 to about 30,000 psi** (from "outer layer . . . such as type 1855 Surlyn" of Nesbitt at col. 2, lines 40-49 in that from the disclosure in Sullivan '381, the patent at issue, at col. 2, lines 44-61, 1855 Surlyn has a flexural modulus of 14,000 psi). Not disclosed is the ionomeric resin including about 17% to about 25% by weight of an alpha, beta-unsaturated carboxylic acid; and, the non-ionomeric thermoplastic selected from the group consisting of polyester elastomer, polyester polyurethane, and polyester amide.

However, Statz discloses a golf ball with a cover layer **comprising an ionomer resin** (from "'Surlyn' ionomers resins" of page 206) **including about 17% to about 25% by weight of an alpha, beta-unsaturated carboxylic acid** (from "'Surlyn' ionomers resins are produced by the

Application/Control Number: 95/000,444

Page 94

Art Unit: 3993

high pressure polymerization of ethylene and methacrylic acid followed by the subsequent neutralization of the polymerized acids with a cation source such as sodium hydroxide” of page 206, and, “However, new ionomers have been produced on an experimental basis with up to 20% copolymerized acid” of page 209); Molitor ‘751 discloses the **non-ionomeric thermoplastic** (“thermoplastic urethane” of col. 2, lines 38-42) **selected from the group consisting of polyester elastomer, polyester polyurethane , and polyester amide** (“thermoplastic polyurethane” and “low melting polyester or polyether chains” of col. 3, lines 31-45). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the golf ball of Nesbitt by using the cover layer of Statz for Nesbitt’s inner cover layer so as to have a ball that is harder, stiffer, with advantage in coefficient of restitution, and possibly in velocity off the club (Statz at page 209); and to further modify by using the cover layer of Molitor ‘751 for Nesbitt’s outer cover layer so as to have short iron playability properties and significant more durability than balata covers (Molitor ‘751 at col. 2, lines 58-64).

#### **Ground 71.**

Requester submits on middle of page 96 to the top of page 98 of the Request (same rejection as for Nesbitt, Horiuchi, and Molitor ‘751) that claim 9 is unpatentable under 35 USC 103(a) as being obvious over Nesbitt in view of Research Disclosure in further view of Molitor ‘751. This proposed rejection is **adopted with modification.**

As to claim 9, Nesbitt discloses **a multi-layer golf ball** (abstract and Fig. 1) **comprising: a spherical core** (12 of Figs. 1 and 2); **an inner cover layer** (14 of Figs. 1 and 2) **molded over said spherical core** (shown in Figs. 1 and 2; “molded” on col. 2, lines 34-39) **to form a**

Application/Control Number: 95/000,444

Page 95

Art Unit: 3993

**spherical intermediate ball** (after “molded” there is formed an intermediate ball); **said inner cover layer comprising an ionomer resin** (from “1605 Surlyn” of col. 2, lines 34-39) **having a modulus of from about 15,000 to about 70,000 psi** (from the disclosure in Sullivan ‘381, the patent at issue, at col. 2, lines 44-61, that 1605 Surlyn has a flexural modulus of 51,000 psi); **an outer cover layer** (16 of Figs. 1 and 2) **molded over** (shown in Figs. 1 and 2; from “then re-molded onto the inner ply or layer 14” col. 2, lines 40-49) **said spherical intermediate ball to form a multi-layer golf ball** (shown in Figs. 1 and 2), **the outer comprising a non-ionomeric thermoplastic** (from “synthetic polymeric material” of col. 3, lines 50-59), **said outer cover layer having a modulus in a range of about 1,000 to about 30,000 psi** (from “outer layer . . . such as type 1855 Surlyn” of Nesbitt at col. 2, lines 40-49 in that from the disclosure in Sullivan ‘381, the patent at issue, at col. 2, lines 44-61, 1855 Surlyn has a flexural modulus of 14,000 psi). Not disclosed is the ionomeric resin including about 17% to about 25% by weight of an alpha, beta-unsaturated carboxylic acid; and, the non-ionomeric thermoplastic selected from the group consisting of polyester elastomer, polyester polyurethane, and polyester amide.

However, Research Disclosure discloses a golf ball with a cover layer **comprising an ionomer resin** (from “[i]onomers” of 2<sup>nd</sup> page) **including about 17% to about 25% by weight of an alpha, beta-unsaturated carboxylic acid** (from “Ionomers produced from polymers of ethylene acrylic/methacrylic acid containing greater than 15 wt % acid can be used to produce molded articles with superior properties” of 2<sup>nd</sup> page); Molitor ‘751 discloses the **non-ionomeric thermoplastic** (“thermoplastic urethane” of col. 2, lines 38-42) **selected from the group consisting of polyester elastomer, polyester polyurethane, and polyester amide** (“thermoplastic polyurethane” and “low melting polyester or polyether chains” of col. 3, lines

Application/Control Number: 95/000,444

Page 96

Art Unit: 3993

31-45). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the golf ball of Nesbitt by using the cover layer of Research Disclosure with 17% to 25% acid for Nesbitt's inner cover layer so as to have a ball with stiffness, hardness, and clarity (Research Disclosure at 2<sup>nd</sup> page); and to further modify by using the cover layer of Molitor '751 for Nesbitt's outer cover layer so as to have short iron playability properties and significant more durability than balata covers (Molitor '751 at col. 2, lines 58-64).

*Claim 10*

**Ground 72.**

Requester submits on middle of page 110 to the top of page 112 of the Request that claim 10 is unpatentable under 35 USC 103(a) as being obvious over Nesbitt in view of Horiuchi in further view of Sullivan '814. This proposed rejection is **not adopted**.

As shown by **Ground 84, *infra***, all limitations of claim 10 are disclosed by Nesbitt in view of Horiuchi. Hence, the rejection of Nesbitt in view of Horiuchi in further view of Sullivan '814 is improper because of the addition of Sullivan '814 which is redundant.

**Ground 73.**

Requester submits on middle of page 112 to the middle of page 113 of the Request (same rejection for Nesbitt in view of Yabuki) that claim 10 is unpatentable under 35 USC 103(a) as being obvious over Nesbitt in view of Yabuki in further view of Sullivan '814. This proposed rejection is **not adopted**.

Application/Control Number: 95/000,444  
Art Unit: 3993

Page 97

As shown by **Ground 85, *infra***, all limitations of claim 10 are disclosed by Nesbitt in view of Yabuki. Hence, the rejection of Nesbitt in view of Yabuki in further view of Sullivan '814 is improper because of the addition of Sullivan '814 which is redundant.

**Ground 74.**

Requester submits on middle of page 118 to the middle of page 119 of the Request that claim 10 is unpatentable under 35 USC 103(a) as being obvious over Nesbitt in view of Statz in further view of Sullivan '814. This proposed rejection is **not adopted**.

As shown by **Ground 86, *infra***, all limitations of claims 10 are disclosed by Nesbitt in view of Statz. Hence, the rejection of Nesbitt in view of Statz in further view of Sullivan '814 is improper because of the addition of Sullivan '814 which is redundant.

**Ground 75.**

Requester submits on middle of page 118 to the middle of page 119 of the Request that claim 10 is unpatentable under 35 USC 103(a) as being obvious over Nesbitt in view of Research Disclosure in further view of Sullivan '814. This proposed rejection is **adopted with modification**.

As to claim 10, Nesbitt discloses **a golf ball (abstract) comprising: a solid core** (12 of Figs. 1 and 2); **an inner cover layer** (14 of Figs. 1 and 2) **molded on said core** (shown in Figs. 1 and 2; "molded" on col. 2, lines 34-39); **the inner cover layer comprising an ionomer** (from "1605 Surlyn" of col. 2, lines 34-39), **wherein said core with said inner cover layer molded thereon comprise an intermediate ball** (from "this spherical body comprising the core or



Application/Control Number: 95/000,444

Page 98

Art Unit: 3993

center 12 and layer 14 . . .” of col. 3, lines 26-32), **said intermediate ball has a coefficient of restitution of greater than 0.801** (from “coefficient of restitution of 0.800 or more” of col. 3, lines 26-32); **and, an outer cover layer** (16 of Figs. 1 and 2) **molded on said inner cover layer** (shown in Figs. 1 and 2; from “then re-molded onto the inner ply or layer 14” col. 2, lines 40-49), **said outer cover layer comprising a relatively soft polymeric material selected from the group consisting of low flexural modulus** (“soft, low flexural modulus resinous material” of col. 2, lines 43-49) **ionomer resins** (from “resinous material such as type 1855 Surlyn” of col. 2, lines 43-49). Not disclosed is the core being polybutadiene, the inner cover layer ionomer being high acid ionomer including at least 16% by weight of an alpha, beta-unsaturated carboxylic acid, and the outer cover layer of ionomer resins. However, Research Disclosure discloses a golf ball with the cover layer ionomer being a **high acid ionomer** (from “[i]onomers” of 2<sup>nd</sup> page) **including at least 16% by weight of an alpha, beta-unsaturated carboxylic acid** (from “Ionomers produced from polymers of ethylene acrylic/methacrylic acid containing greater than 15 wt % acid can be used to produce molded articles with superior properties” of 2<sup>nd</sup> page); Sullivan ‘814 discloses a golf ball with a core of **polybutadiene** (from “cross-linked polybutadiene cores” of col. 6, lines 59-64). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the golf ball of Nesbitt by using the cover layer of Research Disclosure for Nesbitt’s inner cover layer so as to have a ball with stiffness, hardness, and clarity (Research Disclosure at 2<sup>nd</sup> page) and to further modify by using the core material of Sullivan ‘814 so as to have a ball with outstanding distance properties (Sullivan ‘814 at col. 3, lines 63-64).

Application/Control Number: 95/000,444

Page 99

Art Unit: 3993

**Ground 76.**

Requester submits on the middle of page 106 to the middle of page 107 of the Request that claim 10 is unpatentable under 35 USC 103(a) as being obvious over Nesbitt (incorporating Molitor '637) in view of Horiuchi. This proposed rejection is **adopted with modification**.

As to claim 10, Nesbitt discloses a **golf ball** (abstract and Fig. 1) **comprising: a solid core** (12 of Figs. 1 and 2); **an inner cover layer** (14 of Figs. 1 and 2) **molded on said core** (shown in Figs. 1 and 2; "molded" on col. 2, lines 34-39), **the inner cover layer comprising an ionomer** (from "1605 Surlyn" of col. 2, lines 34-39), **wherein said core with said inner cover layer molded thereon comprise an intermediate ball** (from "this spherical body comprising the core or center 12 and layer 14 . . ." of col. 3, lines 26-32), **and said intermediate ball has a coefficient of restitution of greater than 0.801** (from "coefficient of restitution of 0.800 or more" of col. 3, lines 26-32); **and, an outer cover layer** (16 of Figs. 1 and 2) **molded over said inner cover layer** (shown in Figs. 1 and 2; from "then re-molded onto the inner ply or layer 14" col. 2, lines 40-49), **said outer cover layer comprising a relatively soft polymeric material selected from the group consisting of low flexural modulus** ("soft, low flexural modulus resinous material" of col. 2, lines 43-49) **ionomer resins** (from "resinous material such as type 1855 Surlyn" of col. 2, lines 43-49) **and non-ionomeric elastomers** ("polyurethanes" of col. 5, lines 33-55, of Molitor '637 by incorporation by reference of Nesbitt at col. 3, lines 50-60). Not disclosed is the core being polybutadiene and the ionomeric resin being a high acid ionomer including at least 16% by weight of an alpha, beta-unsaturated carboxylic acid. However, Horiuchi discloses a golf ball with a solid core of **polybutadiene** ("rubber composition may be 100 parts polybutadiene" of col. 2, lines 35-49) and a cover layer **comprising a high**

Application/Control Number: 95/000,444

Page 100

Art Unit: 3993

**acid ionomer** (from “carboxyl-rich ionomer resin” of col. 1, lines 31-36) **including at least 16% by weight of an alpha, beta-unsaturated carboxylic acid** (from “alpha, beta-ethylenic unsaturated carboxylic acid limited to 16 to 30 % by weight” of col. 1, lines 50-54). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the golf ball of Nesbitt (incorporating by reference Molitor ‘637) by using the core material and the cover layer of Horiuchi for Nesbitt’s core material and inner cover layer so as to have a ball with excellent impact resilience and flying performance (Horiuchi at col. 1, lines 5-10).

#### **Ground 77.**

Requester submits on the middle of page 112 to the middle of page 113 of the Request (although not provided in the Request the Examiner considers this rejection to be similar to that of Nesbitt in view of Yabuki) that claim 10 is unpatentable under 35 USC 103(a) as being obvious over Nesbitt (incorporating Molitor ‘637) in view of Yabuki. This proposed rejection is **adopted with modification.**

As to claim 10, Nesbitt discloses **a golf ball** (abstract and Fig. 1) **comprising: a solid core** (12 of Figs. 1 and 2); **an inner cover layer** (14 of Figs. 1 and 2) **molded on said core** (shown in Figs. 1 and 2; “molded” on col. 2, lines 34-39), **the inner cover layer comprising an ionomer** (from “1605 Surlyn” of col. 2, lines 34-39), **wherein said core with said inner cover layer molded thereon comprise an intermediate ball** (from “this spherical body comprising the core or center 12 and layer 14 . . .” of col. 3, lines 26-32), **and said intermediate ball has a coefficient of restitution of greater than 0.801** (from “coefficient of restitution of 0.800 or more” of col. 3, lines 26-32); **and, an outer cover layer** (16 of Figs. 1 and 2) **molded over**

Application/Control Number: 95/000,444

Page 101

Art Unit: 3993

**said inner cover layer** (shown in Figs. 1 and 2; from “then re-molded onto the inner ply or layer 14” col. 2, lines 40-49), **said outer cover layer comprising a relatively soft polymeric material selected from the group consisting of low flexural modulus** (“soft, low flexural modulus resinous material” of col. 2, lines 43-49) **ionomer resins** (from “resinous material such as type 1855 Surllyn” of col. 2, lines 43-49) **and non-ionomeric elastomers** (“polyurethanes” of col. 5, lines 33-55, of Molitor ‘637 by incorporation by reference of Nesbitt at col. 3, lines 50-60). Not disclosed is the core being polybutadiene and the ionomeric resin being a high acid ionomer including at least 16% by weight of an alpha, beta-unsaturated carboxylic acid. However, Yabuki discloses a golf ball with a solid core of **polybutadiene** (“rubber composition comprising 100 parts by weight of a so-called high cis-polybutadiene rubber” of col. 1, lines 59-65) and a cover layer **comprising a high acid ionomer including at least 16% by weight of an alpha, beta-unsaturated carboxylic acid** (from “ESCOR EX 951, 562, 900” of col. 3, lines 10-14 and Table 1). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the golf ball of Nesbitt (incorporating by reference Molitor ‘637) by using the core material and the cover layer of Yabuki for Nesbitt’s core material and inner cover layer so as to have a ball with superior flying performance (Yabuki at col. 4, lines 5-10)..

**Ground 78.**

Requester submits on the middle of page 114 to the middle of page 115 of the Request (although not provided in the Request the Examiner considers this rejection to be similar to that of Nesbitt in view of Statz) that claim 10 is unpatentable under 35 USC 103(a) as being obvious

Application/Control Number: 95/000,444

Page 102

Art Unit: 3993

over Nesbitt (incorporating Molitor '637) in view of Statz. This proposed rejection is **adopted with modification.**

As to claim 10, Nesbitt discloses a **golf ball** (abstract and Fig. 1) **comprising: a solid core** (12 of Figs. 1 and 2); **an inner cover layer** (14 of Figs. 1 and 2) **molded on said core** (shown in Figs. 1 and 2; "molded" on col. 2, lines 34-39), **the inner cover layer comprising an ionomer** (from "1605 Surlyn" of col. 2, lines 34-39), **wherein said core with said inner cover layer molded thereon comprise an intermediate ball** (from "this spherical body comprising the core or center 12 and layer 14 . . ." of col. 3, lines 26-32), **and said intermediate ball has a coefficient of restitution of greater than 0.801** (from "coefficient of restitution of 0.800 or more" of col. 3, lines 26-32); **and, an outer cover layer** (16 of Figs. 1 and 2) **molded over said inner cover layer** (shown in Figs. 1 and 2; from "then re-molded onto the inner ply or layer 14" col. 2, lines 40-49), **said outer cover layer comprising a relatively soft polymeric material selected from the group consisting of low flexural modulus** ("soft, low flexural modulus resinous material" of col. 2, lines 43-49) **ionomer resins** (from "resinous material such as type 1855 Surlyn" of col. 2, lines 43-49) **and non-ionomeric elastomers** ("polyurethanes" of col. 5, lines 33-55, of Molitor '637 by incorporation by reference of Nesbitt at col. 3, lines 50-60). Not disclosed is the core being polybutadiene and the ionomeric resin being a high acid ionomer including at least 16% by weight of an alpha, beta-unsaturated carboxylic acid. However, Statz discloses a golf ball with a solid core of **polybutadiene** (from "[i]onomers have also allowed golf ball manufactures to develop two piece golf balls based on crosslinked polybutadiene cores" of page 205) and a cover layer **comprising a high acid ionomer** (from "'Surlyn' ionomers resins" of page 206) **including at least 16% by weight of an alpha, beta-**

Application/Control Number: 95/000,444

Page 103

Art Unit: 3993

**unsaturated carboxylic acid** (from “‘Surlyn’ ionomers resins are produced by the high pressure polymerization of ethylene and methacrylic acid followed by the subsequent neutralization of the polymerized acids with a cation source such as sodium hydroxide” of page 206, and, “However, new ionomers have been produced on an experimental basis with up to 20% copolymerized acid” of page 209). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the golf ball of Nesbitt (incorporating by reference Molitor ‘637) by using the core material and cover layer of Statz for Nesbitt’s core material and inner cover layer so as to have a ball that is harder, stiffer, with advantage in coefficient of restitution, and possibly in velocity off the club (Statz at page 209).

**Ground 79.**

Requester submits on the middle of page 114 to the middle of page 115 of the Request (although not provided in the Request the Examiner considers this rejection to be similar to that of Nesbitt in view of Research Disclosure) that claim 10 is unpatentable under 35 USC 103(a) as being obvious over Nesbitt (incorporating Molitor ‘637) in view of Research Disclosure. This proposed rejection is **not adopted**.

MPEP 706.02(IV) states that “in a rejection based on 35 U.S.C. 103, the reference teachings must somehow be modified in order to meet the claims.” The Examiner considers this language to mean, *inter alia*, that all limitations are disclosed in the applied references.

Here the claim goes to a golf ball with a solid polybutadiene core, an inner cover layer comprising an ionomer resin including at least 16% carboxylic acid and a coefficient of restitution of greater than 0.801, and an outer cover layer of a relatively soft polymeric material.

Application/Control Number: 95/000,444  
Art Unit: 3993

Page 104

In the proposed rejection Nesbitt, the based reference, discloses (Request at page 114) a golf ball with a solid butadiene core, inner cover layer, and an outer cover layer. Research Disclosure, the teaching reference, is proposed to disclose a inner cover layer comprising an ionomeric resin with at least 16% carboxylic acid (Request at middle of pages 114-115). A review of Nesbitt, however, found that Nesbitt does not disclose a polybutadiene core, only a "solid center or core of resilient polymeric or similar material" (Nesbitt at col. 1, lines 45-50).

With no disclosed core of polybutadiene in either Nesbitt or Research Disclosure, the Examiner declines to ascribe a specific material to its disclosed resilient polymeric or similar material. Because the combination of Nesbitt as modified by Research Disclosure fails to disclose a core of polybutadiene required by the language of claim 10 the proposed rejection is not adopted.

#### **Ground 80.**

Requester submits on the middle of page 108 to the middle of page 109 of the Request that claim 10 is unpatentable under 35 USC 103(a) as being obvious over Nesbitt in view of Horiuchi in further view of Molitor '751. This proposed rejection is **adopted with modification.**

As to claim 10, Nesbitt discloses **a golf ball (abstract) comprising: a solid core** (12 of Figs. 1 and 2); **an inner cover layer** (14 of Figs. 1 and 2) **molded on said core** (shown in Figs. 1 and 2; "molded" on col. 2, lines 34-39); **the inner cover layer comprising an ionomer** (from "1605 Surlyn" of col. 2, lines 34-39), **wherein said core with said inner cover layer molded thereon comprise an intermediate ball** (from "this spherical body comprising the core or

Application/Control Number: 95/000,444

Page 105

Art Unit: 3993

center 12 and layer 14 . . .” of col. 3, lines 26-32), **said intermediate ball has a coefficient of restitution of greater than 0.801** (from “coefficient of restitution of 0.800 or more” of col. 3, lines 26-32); **and, an outer cover layer** (16 of Figs. 1 and 2) **molded on said inner cover layer** (shown in Figs. 1 and 2; from “then re-molded onto the inner ply or layer 14” col. 2, lines 40-49), **said outer cover layer comprising a relatively soft polymeric material selected from the group consisting of low flexural modulus** (“soft, low flexural modulus resinous material” of col. 2, lines 43-49) **ionomer resins** (from “resinous material such as type 1855 Surlyn” of col. 2, lines 43-49). Not disclosed is the core being polybutadiene, the inner cover layer ionomer being high acid ionomer including at least 16% by weight of an alpha, beta-unsaturated carboxylic acid, and, additionally, non-ionomeric elastomers. However, Horiuchi discloses a golf ball with a solid core of **polybutadiene** (“rubber composition may be 100 parts polybutadiene” of col. 2, lines 35-49) and the cover layer ionomer being a **high acid ionomer** (from “carboxyl-rich ionomer resin” of col. 1, lines 31-36) **including at least 16% by weight of an alpha, beta-unsaturated carboxylic acid** (from “alpha, beta-ethylenic unsaturated carboxylic acid limited to 16 to 30 % by weight” of col. 1, lines 50-54); and, additionally, Molitor ‘751 discloses a golf ball with a outer cover layer that comprises **non-ionomeric elastomers** (from “preferred components of the cover material comprise a thermoplastic polyurethane” of col. 3, lines 31-45). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the golf ball of Nesbitt by using the core material and the cover layer of Horiuchi for Nesbitt’s core material and inner cover layer so as to have a ball with excellent impact resilience and flying performance (Horiuchi at col. 1, lines 5-10) and, additionally, to further modify by having the core material a non-ionomeric elastomer as



Application/Control Number: 95/000,444

Page 106

Art Unit: 3993

disclosed by Molitor '751 so as to so as to have short iron playability properties and significant more durability than balata covers (Molitor '751 at col. 2, lines 58-64).

**Ground 81.**

Requester submits on the middle of page 112 to the middle of page 113 of the Request (although not provided in the Request the Examiner considers this rejection to be similar to that of Nesbitt in view of Yabuki) that claim 10 is unpatentable under 35 USC 103(a) as being obvious over Nesbitt in view of Yabuki in further view of Molitor '751. This proposed rejection is **adopted with modification.**

As to claim 10, Nesbitt discloses **a golf ball (abstract) comprising: a solid core** (12 of Figs. 1 and 2); **an inner cover layer** (14 of Figs. 1 and 2) **molded on said core** (shown in Figs. 1 and 2; "molded" on col. 2, lines 34-39); **the inner cover layer comprising an ionomer** (from "1605 Surlyn" of col. 2, lines 34-39), **wherein said core with said inner cover layer molded thereon comprise an intermediate ball** (from "this spherical body comprising the core or center 12 and layer 14 ..." of col. 3, lines 26-32), **said intermediate ball has a coefficient of restitution of greater than 0.801** (from "coefficient of restitution of 0.800 or more" of col. 3, lines 26-32); **and, an outer cover layer** (16 of Figs. 1 and 2) **molded on said inner cover layer** (shown in Figs. 1 and 2; from "then re-molded onto the inner ply or layer 14" col. 2, lines 40-49), **said outer cover layer comprising a relatively soft polymeric material selected from the group consisting of low flexural modulus** ("soft, low flexural modulus resinous material" of col. 2, lines 43-49) **ionomer resins** (from "resinous material such as type 1855 Surlyn" of col. 2, lines 43-49). Not disclosed is the core being polybutadiene, the inner cover layer ionomer

Application/Control Number: 95/000,444

Page 107

Art Unit: 3993

being high acid ionomer including at least 16% by weight of an alpha, beta-unsaturated carboxylic acid, and, additionally, non-ionomeric elastomers. However, Yabuki discloses a golf ball with a solid core of **polybutadiene** ("rubber composition comprising 100 parts by weight of a so-called high cis-polybutadiene rubber" of col. 1, lines 59-65) and the cover layer ionomer being a **high acid ionomer including at least 16% by weight of an alpha, beta-unsaturated carboxylic acid** (from "ESCOR EX 951, 562, 900" of col. 3, lines 10-14 and Table 1); and, additionally, Molitor '751 discloses a golf ball with a outer cover layer that comprises **non-ionomeric elastomers** (from "preferred components of the cover material comprise a thermoplastic polyurethane" of col. 3, lines 31-45). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the golf ball of Nesbitt by using the core material and the cover layer of Yabuki for Nesbitt's core material and inner cover layer so as to have a ball with superior flying performance (Yabuki at col. 4, lines 5-10) and, additionally, to further modify by having the core material a non-ionomeric elastomer as disclosed by Molitor '751 so as to so as to have short iron playability properties and significant more durability than balata covers (Molitor '751 at col. 2, lines 58-64).

**Ground 82.**

Requester submits on the middle of page 114 to the middle of page 115 of the Request (although not provided in the Request the Examiner considers this rejection to be similar to that of Nesbitt in view of Statz) that claim 10 is unpatentable under 35 USC 103(a) as being obvious over Nesbitt in view of Statz in further view of Molitor '751. This proposed rejection is **adopted with modification**.

Application/Control Number: 95/000,444  
Art Unit: 3993

Page 108

As to claim 10, Nesbitt discloses **a golf ball (abstract) comprising: a solid core** (12 of Figs. 1 and 2); **an inner cover layer** (14 of Figs. 1 and 2) **molded on said core** (shown in Figs. 1 and 2; "molded" on col. 2, lines 34-39); **the inner cover layer comprising an ionomer** (from "1605 Surlyn" of col. 2, lines 34-39), **wherein said core with said inner cover layer molded thereon comprise an intermediate ball** (from "this spherical body comprising the core or center 12 and layer 14 . . ." of col. 3, lines 26-32), **said intermediate ball has a coefficient of restitution of greater than 0.801** (from "coefficient of restitution of 0.800 or more" of col. 3, lines 26-32); **and, an outer cover layer** (16 of Figs. 1 and 2) **molded on said inner cover layer** (shown in Figs. 1 and 2; from "then re-molded onto the inner ply or layer 14" col. 2, lines 40-49), **said outer cover layer comprising a relatively soft polymeric material selected from the group consisting of low flexural modulus** ("soft, low flexural modulus resinous material" of col. 2, lines 43-49) **ionomer resins** (from "resinous material such as type 1855 Surlyn" of col. 2, lines 43-49). Not disclosed is the core being polybutadiene, the inner cover layer ionomer being high acid ionomer including at least 16% by weight of an alpha, beta-unsaturated carboxylic acid, and, additionally, non-ionomeric elastomers. However, Statz discloses a golf ball with a solid core of **polybutadiene** (from "[i]onomers have also allowed golf ball manufacturers to develop two piece golf balls on crosslinked polybutadiene cores" of page 205) and the cover layer ionomer being **a high acid ionomer** (from "'Surlyn' ionomers resins" of page 206) **including at least 16% by weight of an alpha, beta-unsaturated carboxylic acid** (from "'Surlyn' ionomers resins are produced by the high pressure polymerization of ethylene and methacrylic acid followed by the subsequent neutralization of the polymerized acids with a cation source such as sodium hydroxide" of page 206, and, "However, new ionomers have been

Application/Control Number: 95/000,444

Page 109

Art Unit: 3993

produced on an experimental basis with up to 20% copolymerized acid” of page 209); and, additionally, Molitor ‘751 discloses a golf ball with a outer cover layer that comprises **non-ionomeric elastomers** (from “preferred components of the cover material comprise a thermoplastic polyurethane” of col. 3, lines 31-45). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the golf ball of Nesbitt by using the core material and the cover layer of Statz for Nesbitt’s core material and inner cover layer so as to have a ball that is harder, stiffer, with advantage in coefficient of restitution, and possibly in velocity off the club (Statz at page 209) and, additionally, to further modify by having the core material a non-ionomeric elastomer as disclosed by Molitor ‘751 so as to so as to have short iron playability properties and significant more durability than balata covers (Molitor ‘751 at col. 2, lines 58-64).

**Ground 83.**

Requester submits on the middle of page 114 to the middle of page 115 of the Request (although not provided in the Request the Examiner considers this rejection to be similar to that of Nesbitt in view of Research Disclosure) that claim 10 is unpatentable under 35 USC 103(a) as being obvious over Nesbitt in view of Research Disclosure in further view of Molitor ‘751. This proposed rejection is **adopted with modification**.

As to claim 10, Nesbitt discloses **a golf ball (abstract) comprising: a solid core** (12 of Figs. 1 and 2); **an inner cover layer** (14 of Figs. 1 and 2) **molded on said core** (shown in Figs. 1 and 2; “molded” on col. 2, lines 34-39); **the inner cover layer comprising an ionomer** (from “1605 Surlyn” of col. 2, lines 34-39), **wherein said core with said inner cover layer molded**

Application/Control Number: 95/000,444

Page 110

Art Unit: 3993

**thereon comprise an intermediate ball** (from “this spherical body comprising the core or center 12 and layer 14 . . .” of col. 3, lines 26-32), **said intermediate ball has a coefficient of restitution of greater than 0.801** (from “coefficient of restitution of 0.800 or more” of col. 3, lines 26-32); **and, an outer cover layer** (16 of Figs. 1 and 2) **molded on said inner cover layer** (shown in Figs. 1 and 2; from “then re-molded onto the inner ply or layer 14” col. 2, lines 40-49), **said outer cover layer comprising a relatively soft polymeric material selected from the group consisting of low flexural modulus** (“soft, low flexural modulus resinous material” of col. 2, lines 43-49) **ionomer resins** (from “resinous material such as type 1855 Surlyn” of col. 2, lines 43-49). Not disclosed is the core being polybutadiene, the inner cover layer ionomer being high acid ionomer including at least 16% by weight of an alpha, beta-unsaturated carboxylic acid, and, additionally, non-ionomeric elastomers. However, Research Disclosure discloses a golf ball with a cover layer ionomer being a **high acid ionomer** (from “[i]onomers” of 2<sup>nd</sup> page) **including at least 16% by weight of an alpha, beta-unsaturated carboxylic acid** (from “Ionomers produced from polymers of ethylene acrylic/methacrylic acid containing greater than 15 wt % acid can be used to produce molded articles with superior properties” of 2<sup>nd</sup> page); Molitor ‘751 discloses a golf ball with a solid core of **polybutadiene** (col. 5, lines 44-49) and, additionally, Molitor ‘751 discloses a golf ball with a outer cover layer that comprises **non-ionomeric elastomers** (from “preferred components of the cover material comprise a thermoplastic polyurethane” of col. 3, lines 31-45). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the golf ball of Nesbitt by using the cover layer of Research Disclosure for Nesbitt’s inner cover layer so as to have a ball with stiffness, hardness, and clarity (Research Disclosure at 2<sup>nd</sup> page) and use the core material of

Application/Control Number: 95/000,444

Page 111

Art Unit: 3993

Molitor '751 for Nesbitt's core material so as to have a ball so as to use a conventional solid core (Molitor '751 at col. 5, lines 44-62) and; additionally, to further modify by having the core material a non-ionomeric elastomer as disclosed by Molitor '751 so as to so as to have short iron playability properties and significant more durability than balata covers (Molitor '751 at col. 2, lines 58-64).

**Ground 84.**

Requester submits on the middle of page 112 to the middle of page 113 of the Request that claim 10 is unpatentable under 35 USC 103(a) as being obvious over Nesbitt in view of Yabuki. This proposed rejection is **adopted with modification.**

As to claim 10, Nesbitt discloses **a golf ball (abstract) comprising: a solid core** (12 of Figs. 1 and 2); **an inner cover layer** (14 of Figs. 1 and 2) **molded on said core** (shown in Figs. 1 and 2; "molded" on col. 2, lines 34-39); **the inner cover layer comprising an ionomer** (from "1605 Surlyn" of col. 2, lines 34-39), **wherein said core with said inner cover layer molded thereon comprise an intermediate ball** (from "this spherical body comprising the core or center 12 and layer 14 . . ." of col. 3, lines 26-32), **said intermediate ball has a coefficient of restitution of greater than 0.801** (from "coefficient of restitution of 0.800 or more" of col. 3, lines 26-32); **and, an outer cover layer** (16 of Figs. 1 and 2) **molded on said inner cover layer** (shown in Figs. 1 and 2; from "then re-molded onto the inner ply or layer 14" col. 2, lines 40-49), **said outer cover layer comprising a relatively soft polymeric material selected from the group consisting of low flexural modulus** ("soft, low flexural modulus resinous material" of col. 2, lines 43-49) **ionomer resins** (from "resinous material such as type 1855 Surlyn" of col.

Application/Control Number: 95/000,444

Page 112

Art Unit: 3993

2, lines 43-49). Not disclosed is the core being polybutadiene, the inner cover layer ionomer being high acid ionomer including at least 16% by weight of an alpha, beta-unsaturated carboxylic acid, and the outer cover layer of ionomer resins. However, Yabuki discloses a golf ball with a solid core of **polybutadiene** ("rubber composition comprising 100 parts by weight of a so-called high cis-polybutadiene rubber" of col. 1, lines 59-65) and the cover layer ionomer being a **high acid ionomer including at least 16% by weight of an alpha, beta-unsaturated carboxylic acid** (from "ESCOR EX 951, 562, 900" of col. 3, lines 10-14 and Table 1). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the golf ball of Nesbitt by using the core material of Yabuki and the cover layer of Yabuki for Nesbitt's core material and inner cover layer so as to have a ball with superior flying performance (Yabuki at col. 4, lines 5-10).

**Ground 85.**

Requester submits on the middle of page 114 to the middle of page 115 of the Request that claim 10 is unpatentable under 35 USC 103(a) as being obvious over Nesbitt in view of Statz. This proposed rejection is **adopted with modification**.

As to claim 10, Nesbitt discloses a **golf ball (abstract) comprising: a solid core** (12 of Figs. 1 and 2); **an inner cover layer** (14 of Figs. 1 and 2) **molded on said core** (shown in Figs. 1 and 2; "molded" on col. 2, lines 34-39), **the inner cover layer comprising an ionomer** (from "1605 Surlyn" of col. 2, lines 34-39), **wherein said core with said inner cover layer molded thereon comprise an intermediate ball** (from "this spherical body comprising the core or center 12 and layer 14 . . ." of col. 3, lines 26-32), **said intermediate ball has a coefficient of**

Application/Control Number: 95/000,444

Page 113

Art Unit: 3993

restitution of greater than 0.801 (from "coefficient of restitution of 0.800 or more" of col. 3, lines 26-32); and, an outer cover layer (16 of Figs. 1 and 2) molded on said inner cover layer (shown in Figs. 1 and 2; from "then re-molded onto the inner ply or layer 14" col. 2, lines 40-49), said outer cover layer comprising a relatively soft polymeric material selected from the group consisting of low flexural modulus ("soft, low flexural modulus resinous material" of col. 2, lines 43-49) ionomer resins (from "resinous material such as type 1855 Surlyn" of col. 2, lines 43-49). Not disclosed is the core being polybutadiene, the inner cover layer ionomer being high acid ionomer including at least 16% by weight of an alpha, beta-unsaturated carboxylic acid, and the outer cover layer of ionomer resins. However, Statz discloses a golf ball a golf ball with a core of polybutadiene (from "[i]onomers have also allowed golf ball manufacturers to develop two piece golf balls on crosslinked polybutadiene cores" of page 205) and the cover layer ionomer being a high acid ionomer (from "'Surlyn' ionomers resins" of page 206) including at least 16% by weight of an alpha, beta-unsaturated carboxylic acid (from "'Surlyn' ionomers resins are produced by the high pressure polymerization of ethylene and methacrylic acid followed by the subsequent neutralization of the polymerized acids with a cation source such as sodium hydroxide" of page 206, and, "However, new ionomers have been produced on an experimental basis with up to 20% copolymerized acid" of page 209) It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the golf ball of Nesbitt by using the core material and cover layer of Statz for Nesbitt's core material and inner cover layer so as to have a ball that is harder, stiffer, with advantage in coefficient of restitution, and possibly in velocity off the club (Statz at page 209).



Application/Control Number: 95/000,444  
Art Unit: 3993

Page 114

**Ground 86.**

Requester submits on the middle of page 114 to the middle of page 115 of the Request that claim 10 is unpatentable under 35 USC 103(a) as being obvious over Nesbitt in view of Research Disclosure. This proposed rejection is **not adopted**.

MPEP 706.02(IV) states that "in a rejection based on 35 U.S.C. 103, the reference teachings must somehow be modified in order to meet the claims." The Examiner considers this language to mean, *inter alia*, that all limitations are disclosed in the applied references.

Here the claim goes to a golf ball with a solid polybutadiene core, an inner cover layer comprising an ionomer resin including at least 16% carboxylic acid and a coefficient of restitution of greater than 0.801, and an outer cover layer of a relatively soft polymeric material. In the proposed rejection Nesbitt, the base reference, discloses (Request at page 114) a golf ball with a solid butadiene core, inner cover layer, and an outer cover layer. Research Disclosure, the teaching reference, is proposed to disclose a inner cover layer comprising an ionomeric resin with at least 16% carboxylic acid (Request at middle of pages 114-115). A review of Nesbitt, however, found that Nesbitt does not disclose a polybutadiene core, only a "solid center or core of resilient polymeric or similar material" (Nesbitt at col. 1, lines 45-50). Further, Research Disclosure does not disclose a core of polybutadiene.

With no disclosed core of polybutadiene in either Nesbitt or Research Disclosure, the Examiner declines to ascribe a specific material to its disclosed resilient polymeric or similar material. Because the combination of Nesbitt as modified by Research Disclosure fails to disclose a core of polybutadiene required by the language of claim 10 the proposed rejection is not adopted.

Application/Control Number: 95/000,444  
Art Unit: 3993

Page 115

**Ground 87.**

Requester submits on page 121 to the middle of page 122 of the Request (although not provided in the Request the Examiner considers this rejection to be similar to that of Viollaz in view of Statz or Research Disclosure) that claim 10 is unpatentable under 35 USC 103(a) as being obvious over Viollaz in view of Horiuchi. This proposed rejection is **not adopted**.

MPEP 706.02(IV) states that "in a rejection based on 35 U.S.C. 103, the reference teachings must somehow be modified in order to meet the claims." The Examiner considers this language to mean, *inter alia*, that all limitations are disclosed in the applied references.

Here the claim goes to a golf ball with a solid polybutadiene core, an inner cover layer comprising an ionomer resin including at least 16% carboxylic acid and a coefficient of restitution of greater than 0.801, and an outer cover layer of a relatively soft polymeric material. In the proposed rejection Viollaz, the base reference, discloses (Request at page 121) a golf ball with a solid butadiene core, inner cover layer, and an outer cover layer. Horiuchi, the teaching reference, is proposed to disclose a inner cover layer comprising an ionomeric resin with at least 16% carboxylic acid (Request at bottom of page 122). A review of Viollaz, however, found that Viollaz does not disclose an intermediate ball with a coefficient of restitution of greater than 0.801. No coefficient of restitution is disclosed in Viollaz. Further, Horiuchi does not disclose a coefficient of restitution.

With no disclosed coefficient of restitution in either Viollaz or Horiuchi, the Examiner declines to ascribe a specific coefficient of restitution for any portion of the golf ball. Because

Application/Control Number: 95/000,444

Page 116

Art Unit: 3993

the combination of Viollaz as modified by Horiuchi fails to disclose a coefficient of restitution required by the language of claim 10, the proposed rejection is not adopted.

**Ground 88.**

Requester submits on page 121 to the middle of page 122 of the Request (although not provided in the Request the Examiner considers this rejection to be similar to that of Viollaz in view of Statz or Research Disclosure) that claim 10 is unpatentable under 35 USC 103(a) as being obvious over Viollaz in view of Yabuki. This proposed rejection is **not adopted**.

MPEP 706.02(IV) states that "in a rejection based on 35 U.S.C. 103, the reference teachings must somehow be modified in order to meet the claims." The Examiner considers this language to mean, *inter alia*, that all limitations are disclosed in the applied references.

Here the claim goes to a golf ball with a solid polybutadiene core, an inner cover layer comprising an ionomer resin including at least 16% carboxylic acid and a coefficient of restitution of greater than 0.801, and an outer cover layer of a relatively soft polymeric material. In the proposed rejection Viollaz, the base reference, discloses (Request at page 121) a golf ball with a solid butadiene core, inner cover layer, and an outer cover layer. Yabuki, the teaching reference, is proposed to disclose a inner cover layer comprising an ionomeric resin with at least 16% carboxylic acid (Request at bottom of page 122). A review of Viollaz, however, found that Viollaz does not disclose an intermediate ball with a coefficient of restitution of greater than 0.801. No coefficient of restitution is disclosed in Viollaz. Further, Yabuki does not disclose a coefficient of restitution.

Application/Control Number: 95/000,444  
Art Unit: 3993

Page 117

With no disclosed coefficient of restitution in either Viollaz or Yabuki, the Examiner declines to ascribe a specific coefficient of restitution for any portion of the golf ball. Because the combination of Viollaz as modified by Yabuki fails to disclose a coefficient of restitution required by the language of claim 10, the proposed rejection is not adopted.

**Ground 89.**

Requester submits on page 121 to the middle of page 122 of the Request that claim 10 is unpatentable under 35 USC 103(a) as being obvious over Viollaz in view of Statz. This proposed rejection is **not adopted**.

MPEP 706.02(IV) states that "in a rejection based on 35 U.S.C. 103, the reference teachings must somehow be modified in order to meet the claims." The Examiner considers this language to mean, *inter alia*, that all limitations are disclosed in the applied references.

Here the claim goes to a golf ball with a solid polybutadiene core, an inner cover layer comprising an ionomer resin including at least 16% carboxylic acid and a coefficient of restitution of greater than 0.801, and an outer cover layer of a relatively soft polymeric material. In the proposed rejection Viollaz, the base reference, discloses (Request at page 121) a golf ball with a solid butadiene core, inner cover layer, and an outer cover layer. Statz, the teaching reference, is proposed to disclose a inner cover layer comprising an ionomeric resin with at least 16% carboxylic acid (Request at bottom of page 122). A review of Viollaz, however, found that Viollaz does not disclose an intermediate ball with a coefficient of restitution of greater than 0.801. No coefficient of restitution is disclosed in Viollaz. Further, Statz does not disclose a coefficient of restitution.

Application/Control Number: 95/000,444  
Art Unit: 3993

Page 118

With no disclosed coefficient of restitution in either Viollaz or Statz, the Examiner declines to ascribe a specific coefficient of restitution for any portion of the golf ball. Because the combination of Viollaz as modified by Statz fails to disclose a coefficient of restitution required by the language of claim 10, the proposed rejection is not adopted.

**Ground 90.**

Requester submits on page 121 to the middle of page 122 of the Request that claim 10 is unpatentable under 35 USC 103(a) as being obvious over Viollaz in view of Research Disclosure. This proposed rejection is **not adopted**.

MPEP 706.02(IV) states that "in a rejection based on 35 U.S.C. 103, the reference teachings must somehow be modified in order to meet the claims." The Examiner considers this language to mean, *inter alia*, that all limitations are disclosed in the applied references.

Here the claim goes to a golf ball with a solid polybutadiene core, an inner cover layer comprising an ionomer resin including at least 16% carboxylic acid and a coefficient of restitution of greater than 0.801, and an outer cover layer of a relatively soft polymeric material. In the proposed rejection Viollaz, the base reference, discloses (Request at page 121) a golf ball with a solid butadiene core, inner cover layer, and an outer cover layer. Research Disclosure, the teaching reference, is proposed to disclose a inner cover layer comprising an ionomeric resin with at least 16% carboxylic acid (Request at bottom of page 122). A review of Viollaz, however, found that Viollaz does not disclose an intermediate ball with a coefficient of restitution of greater than 0.801. No coefficient of restitution is disclosed in Viollaz. Further, Research Disclosure does not disclose a coefficient of restitution.

Application/Control Number: 95/000,444

Page 119

Art Unit: 3993

With no disclosed coefficient of restitution in either Viollaz or Research Disclosure, the Examiner declines to ascribe a specific coefficient of restitution for any portion of the golf ball. Because the combination of Viollaz as modified by Research Disclosure fails to disclose a coefficient of restitution required by the language of claim 10, the proposed rejection is not adopted.

**Ground 91.**

Requester submits on the middle of page 123 to the middle of page 124 of the Request that claim 10 is unpatentable under 35 USC 102(b) as anticipated by Sullivan '831. This proposed rejection is **adopted with modification.**

As to claim 10, Sullivan '831 discloses **a golf ball (abstract) comprising: a solid polybutadiene core** (10 of Fig. 2; "elastomer composition comprising a high cis content polybutadiene" of col. 23, lines 31-45); **an inner cover layer** (14 of Fig. 2) **molded on said core** (from "inner cover layer formed over the core" of col. 3, lines 47-50), **the inner cover layer comprising a high acid ionomer including at least 16% by weight of an alpha, beta-unsaturated carboxylic acid, wherein said core with said inner cover layer molded thereon comprise an intermediate ball** (col. 5, lines 14-35; col. 1, lines 57-60), **and said intermediate ball has a coefficient of restitution of greater than 0.801** (example of balls shown in Table 13 of col. 31); **and, an outer cover layer** (16 of Fig. 2) **molded on said inner cover layer** ("outer cover layer formed over the inner cover layer" of col. 3, 47-50), **said outer cover layer comprising a relatively soft** (from "comparatively softer than the inner cover layer" of col. 15, lines 9-15) **polymeric material** (from "low acid (less than 16 weight percent acid) ionomer" of

Application/Control Number: 95/000,444

Page 120

Art Unit: 3993

col. 15, lines 9-35) **selected from the group consisting of low flexural modulus** (from “low modulus” of col. 15, 9-15) **ionomer resins** (from “low acid (less than 16 weight percent acid) ionomer, an ionomer blend, a non-ionomeric thermoplastic” of col. 15, lines 9-35) **and non-ionomeric elastomers** (from “low acid . . . non-ionomeric thermoplastic” of col. 15, lines 9-35).

*Claim 11*

**Ground 92.**

Requester submits on the middle of page 127 of the Request that claim 11 is unpatentable under 35 USC 103(a) as being obvious over Nesbitt (incorporating Molitor ‘637) in view of Horiuchi. This proposed rejection is **adopted with modification**.

As to claim 11, Nesbitt (incorporating Molitor ‘637) in view of Horiuchi further disclose **wherein said non-ionomeric elastomer is a polyurethane** (“polyurethanes” of col. 5, lines 33-55, of Molitor ‘637 by incorporation by reference of Nesbitt at col. 3, lines 50-60).

**Ground 93.**

Requester submits on the middle of page 127 of the Request (although not provided in the Request the Examiner considers this rejection to be similar to that of Nesbitt (incorporating Molitor ‘637) in view of Horiuchi) that claim 11 is unpatentable under 35 USC 103(a) as being obvious over Nesbitt (incorporating Molitor ‘637) in view of Yabuki. This proposed rejection is **adopted with modification**.

Application/Control Number: 95/000,444  
Art Unit: 3993

Page 121

As to claim 11, Nesbitt (incorporating Molitor '637) in view of Yabuki further disclose **wherein said non-ionomeric elastomer is a polyurethane** ("polyurethanes" of col. 5, lines 33-55, of Molitor '637 by incorporation by reference of Nesbitt at col. 3, lines 50-60).

**Ground 94.**

Requester submits on the middle of page 127 of the Request (although not provided in the Request the Examiner considers this rejection to be similar to that of Nesbitt (incorporating Molitor '637) in view of Horiuchi) that claim 11 is unpatentable under 35 USC 103(a) as being obvious over Nesbitt (incorporating Molitor '637) in view of Statz. This proposed rejection is **adopted with modification.**

As to claim 11, Nesbitt (incorporating Molitor '637) in view of Statz further disclose **wherein said non-ionomeric elastomer is a polyurethane** ("polyurethanes" of col. 5, lines 33-55, of Molitor '637 by incorporation by reference of Nesbitt at col. 3, lines 50-60).

**Ground 95.**

Requester submits on the middle of page 127 of the Request (although not provided in the Request the Examiner considers this rejection to be similar to that of Nesbitt (incorporating Molitor '637) in view of Horiuchi) that claim 11 is unpatentable under 35 USC 103(a) as being obvious over Nesbitt (incorporating Molitor '637) in view of Research Disclosure. This proposed rejection is **adopted with modification.**

As to claim 11, Nesbitt (incorporating Molitor '637) in view of Research Disclosure further disclose **wherein said non-ionomeric elastomer is a polyurethane** ("polyurethanes" of



Application/Control Number: 95/000,444

Page 122

Art Unit: 3993

col. 5, lines 33-55, of Molitor '637 by incorporation by reference of Nesbitt at col. 3, lines 50-60).

**Ground 96.**

Requester submits on the top of page 128 of the Request that claim 11 is unpatentable under 35 USC 103(a) as being obvious over Nesbitt in view of Horiuchi in further view of Molitor '751. This proposed rejection is **adopted with modification**.

As to claim 11, Nesbitt as modified by Horiuchi as further modified by Molitor '751 further disclose **wherein said non-ionomeric elastomer is a polyurethane** ((from "preferred components of the cover material comprise a thermoplastic polyurethane" of col. 3, lines 31-45, of Molitor '751).

**Ground 97.**

Requester submits on the top of page 128 of the Request (although not provided in the Request the Examiner considers this rejection to be similar to that of Nesbitt in view of Horiuchi in further view of Molitor '751) that claim 11 is unpatentable under 35 USC 103(a) as being obvious over Nesbitt in view of Yabuki in further view of Molitor '751. This proposed rejection is **adopted with modification**.

As to claim 11, Nesbitt as modified by Yabuki as further modified by Molitor '751 further disclose **wherein said non-ionomeric elastomer is a polyurethane** (from "preferred components of the cover material comprise a thermoplastic polyurethane" of col. 3, lines 31-45, of Molitor '751).

Application/Control Number: 95/000,444  
Art Unit: 3993

Page 123

**Ground 98.**

Requester submits on the top of page 128 of the Request (although not provided in the Request the Examiner considers this rejection to be similar to that of Nesbitt in view of Horiuchi in further view of Molitor '751) that claim 11 is unpatentable under 35 USC 103(a) as being obvious over Nesbitt in view of Statz in further view of Molitor '751. This proposed rejection is **adopted with modification.**

As to claim 11, Nesbitt as modified by Statz as further modified by Molitor '751 further disclose **wherein said non-ionomeric elastomer is a polyurethane** (from "preferred components of the cover material comprise a thermoplastic polyurethane" of col. 3, lines 31-45, of Molitor '751).

**Ground 99.**

Requester submits on the top of page 128 of the Request (although not provided in the Request the Examiner considers this rejection to be similar to that of Nesbitt in view of Horiuchi in further view of Molitor '751) that claim 11 is unpatentable under 35 USC 103(a) as being obvious over Nesbitt in view of Research Disclosure in further view of Molitor '751. This proposed rejection is **adopted with modification.**

As to claim 11, Nesbitt as modified by Research Disclosure as further modified by Molitor '751 further disclose **wherein said non-ionomeric elastomer is a polyurethane** (from "preferred components of the cover material comprise a thermoplastic polyurethane" of col. 3, lines 31-45, of Molitor '751).

Application/Control Number: 95/000,444  
Art Unit: 3993

Page 124

**Ground 100.**

Requester submits on page 121 to the middle of page 122 of the Request (although not provided in the Request the Examiner considers this rejection to be similar to that of Viollaz in view of Statz or Research Disclosure) that claim 11 is unpatentable under 35 USC 103(a) as being obvious over Viollaz in view of Horiuchi. This proposed rejection is **not adopted**.

Claim 11 depends upon claim 10. Since the proposed rejection of claim 1 was not adopted (see **Ground 88** above) and claim 11 contains the limitations of claim 10, the proposed rejection for claim 11 is not adopted.

**Ground 101.**

Requester submits on page 121 to the middle of page 122 of the Request (although not provided in the Request the Examiner considers this rejection to be similar to that of Viollaz in view of Statz or Research Disclosure) that claim 11 is unpatentable under 35 USC 103(a) as being obvious over Viollaz in view of Yabuki. This proposed rejection is **not adopted**.

Claim 11 depends upon claim 10. Since the proposed rejection of claim 1 was not adopted (see **Ground 89** above) and claim 11 contains the limitations of claim 10, the proposed rejection for claim 11 is not adopted.

**Ground 102.**

Requester submits on page 121 to the middle of page 122 of the Request (although not provided in the Request the Examiner considers this rejection to be similar to that of Viollaz in

Application/Control Number: 95/000,444

Page 125

Art Unit: 3993

view of Statz or Research Disclosure) that claim 11 is unpatentable under 35 USC 103(a) as being obvious over Viollaz in view of Statz. This proposed rejection is **not adopted**.

Claim 11 depends upon claim 10. Since the proposed rejection of claim 1 was not adopted (*see Ground 90* above) and claim 11 contains the limitations of claim 10, the proposed rejection for claim 11 is not adopted.

**Ground 103.**

Requester submits on page 121 to the middle of page 122 of the Request (although not provided in the Request the Examiner considers this rejection to be similar to that of Viollaz in view of Statz or Research Disclosure) that claim 11 is unpatentable under 35 USC 103(a) as being obvious over Viollaz in view of Research Disclosure. This proposed rejection is **not adopted**.

Claim 11 depends upon claim 10. Since the proposed rejection of claim 1 was not adopted (*see Ground 91* above) and claim 11 contains the limitations of claim 10, the proposed rejection for claim 11 is not adopted.

**Ground 104.**

Requester submits on the top of page 130 of the Request that claim 11 is unpatentable under 35 USC 102(b) as anticipated by Sullivan '831. This proposed rejection is **adopted with modification**.

As to claim 11, Sullivan '831 further discloses **wherein said non-ionomeric elastomer is a polyurethane** (from "polyester polyurethane" of col. 22, lines 60-63).

Application/Control Number: 95/000,444  
Art Unit: 3993

Page 126

*Claim 12*

**Ground 105.**

Requester submits on middle of page 110 to the top of page 112 of the Request (although not provided in the Request the Examiner considers this rejection to be similar to that of Nesbitt in view of Horiuchi in further view of Sullivan '814 for claim 10) that claim 12 is unpatentable under 35 USC 103(a) as being obvious over Nesbitt in view of Horiuchi in further view of Sullivan '814. This proposed rejection is **adopted with modification**.

As to Claim 12, the limitations of claim 10 are disclosed as described above. Not disclosed is wherein said golf ball has a coefficient of restitution of at least 0.770. However, Sullivan '814 discloses **wherein said golf ball has a coefficient of restitution of at least 0.770** ("C.O.R." of Table 2-continued and Table 3 of cols.15 and 16). It would have been obvious to one of ordinary skill in the art at the time of the invention to further modify the golf ball of Nesbit as modified by Horiuchi by making the ball to have a coefficient of restitution above 0.770 as disclosed by Sullivan '814 so as to have optimum velocity (Sullivan '814 at col. 7, lines 16-23).

**Ground 106.**

Requester submits on the middle of page 104 to the middle of page 105 of the Request (although not provided in the Request the Examiner considers this rejection to be similar to that of Nesbitt in view of Yabuki) that claim 12 is unpatentable under 35 USC 103(a) as being

Application/Control Number: 95/000,444

Page 127

Art Unit: 3993

obvious over Nesbitt in view of Yabuki in further view of Sullivan '814. This proposed rejection is **adopted with modification.**

As to Claim 12, the limitations of claim 10 are disclosed as described above. Not disclosed is wherein said golf ball has a coefficient of restitution of at least 0.770. However, Sullivan '814 discloses **wherein said golf ball has a coefficient of restitution of at least 0.770** ("C.O.R." of Table 2-continued and Table 3 of cols.15 and 16). It would have been obvious to one of ordinary skill in the art at the time of the invention to further modify the golf ball of Nesbit as modified by Yabuki by making the ball to have a coefficient of restitution above 0.770 as disclosed by Sullivan '814 so as to have optimum velocity (Sullivan '814 at col. 7, lines 16-23).

**Ground 107.**

Requester submits on the middle of page 118 to the middle of page 119 of the Request (although not provided in the Request the Examiner considers this rejection to be similar to that of Nesbitt in view of Statz) that claim 12 is unpatentable under 35 USC 103(a) as being obvious over Nesbitt in view of Statz in further view of Sullivan '814. This proposed rejection is **adopted with modification.**

As to Claim 12, the limitations of claim 10 are disclosed as described above. Not disclosed is wherein said golf ball has a coefficient of restitution of at least 0.770. However, Sullivan '814 discloses **wherein said golf ball has a coefficient of restitution of at least 0.770** ("C.O.R." of Table 2-continued and Table 3 of cols.15 and 16). It would have been obvious to one of ordinary skill in the art at the time of the invention to further modify the golf ball of

Application/Control Number: 95/000,444

Page 128

Art Unit: 3993

Nesbit as modified by Statz by making the ball to have a coefficient of restitution above 0.770 as disclosed by Sullivan '814 so as to have optimum velocity (Sullivan '814 at col. 7, lines 16-23).

**Ground 108.**

Requester submits on the middle of page 118 to the middle of page 119 of the Request (although not provided in the Request the Examiner considers this rejection to be similar to that of Nesbitt in view of Research Disclosure) that claim 12 is unpatentable under 35 USC 103(a) as being obvious over Nesbitt in view of Research Disclosure in further view of Sullivan '814.

This proposed rejection is **adopted with modification**.

As to claim 12, Nesbitt in view of Research Disclosure in further view of Sullivan '814 further disclose **wherein said golf ball has a coefficient of restitution of at least 0.770** ("C.O.R." of Table 2-continued and Table 3 of cols.15 and 16). It would have been obvious to one of ordinary skill in the art at the time of the invention to further modify the golf ball of Nesbit as modified by Horiuchi as further modified by Sullivan '814 by making the ball to have a coefficient of restitution above 0.770 as disclosed by Sullivan '814 so as to have optimum velocity (Sullivan '814 at col. 7, lines 16-23).

**Ground 109.**

Requester submits on the bottom of page 130 to the top of page 131 of the Request (Examiner considers this section to give a rejection that incorporates Molitor '637 because there was no proposed rejection without incorporation for claim 10 upon which claim 12 depends) that

Application/Control Number: 95/000,444  
Art Unit: 3993

Page 129

claim 12 is unpatentable under 35 USC 103(a) as being obvious over Nesbitt (incorporating Molitor '637) in view of Horiuchi. This proposed rejection is **not adopted**.

MPEP 2163.07(b) states that "[i]nstead of repeating some information contained in another document, an application may attempt to incorporate the content of another document or part thereof by reference to the document in the text of the specification."

Here, Nesbitt is proposed to disclose a coefficient of restitution for the golf ball of at least 0.770 by incorporation by reference of Molitor '637. Molitor '637 does disclose balls with coefficients of restitution greater than 0.770 at, for example, Example 1 and 2 (both with coefficients of restitution of 0.780). However, by its language, Nesbitt incorporates "a number of foamable compositions of a character which may be employed for one or both layers" of its golf ball. With this explicit language, the Examiner considers Nesbitt to incorporate "a part" of Molitor '637, the part dealing with "foamable compositions," and not the complete reference. Therefore, Nesbitt does not incorporate by reference to Molitor '637 golf balls with the required coefficient of restitution. Further, Horiuchi does not disclose a coefficient of restitution. Because the combination of Nesbitt as modified by Horiuchi fails to disclose a coefficient of restitution required by the language of claim 12, the proposed rejection is not adopted.

#### **Ground 110.**

Requester submits on the middle of page 132 of the Request that claim 12 is unpatentable under 35 USC 103(a) as being obvious over Nesbitt (incorporating Molitor '637) in view of Yabuki. This proposed rejection is **not adopted**.



Application/Control Number: 95/000,444  
Art Unit: 3993

Page 130

MPEP 2163.07(b) states that “[i]nstead of repeating some information contained in another document, an application may attempt to incorporate the content of another document or part thereof by reference to the document in the text of the specification.”

Here, Nesbitt is proposed to disclose a coefficient of restitution for the golf ball of at least 0.770 by incorporation by reference of Molitor ‘637. Molitor ‘637 does disclose balls with coefficients of restitution greater than 0.770 at, for example, Example 1 and 2 (both with coefficients of restitution of 0.780). However, by its language, Nesbitt incorporates “a number of foamable compositions of a character which may be employed for one or both layers” of its golf ball. With this explicit language, the Examiner considers Nesbitt to incorporate “a part” of Molitor ‘637, the part dealing with “foamable compositions,” and not the complete reference. Therefore, Nesbitt does not incorporate by reference to Molitor ‘637 golf balls with the required coefficient of restitution. Further, Yabuki does not disclose a coefficient of restitution. Because the combination of Nesbitt as modified by Yabuki fails to disclose a coefficient of restitution required by the language of claim 12, the proposed rejection is not adopted.

**Ground 111.**

Requester submits on the middle of page 134 of the Request that claim 12 is unpatentable under 35 USC 103(a) as being obvious over Nesbitt (incorporating Molitor ‘637) in view of Statz. This proposed rejection is **not adopted**.

MPEP 2163.07(b) states that “[i]nstead of repeating some information contained in another document, an application may attempt to incorporate the content of another document or part thereof by reference to the document in the text of the specification.”

Application/Control Number: 95/000,444  
Art Unit: 3993

Page 131

Here, Nesbitt is proposed to disclose a coefficient of restitution for the golf ball of at least 0.770 by incorporation by reference of Molitor '637. Molitor '637 does disclose balls with coefficients of restitution greater than 0.770 at, for example, Example 1 and 2 (both with coefficients of restitution of 0.780). However, by its language, Nesbitt incorporates "a number of foamable compositions of a character which may be employed for one or both layers" of its golf ball. With this explicit language, the Examiner considers Nesbitt to incorporate "a part" of Molitor '637, the part dealing with "foamable compositions," and not the complete reference. Therefore, Nesbitt does not incorporate by reference to Molitor '637 golf balls with the required coefficient of restitution. Further, Statz does not disclose a coefficient of restitution. Because the combination of Nesbitt as modified by Statz fails to disclose a coefficient of restitution required by the language of claim 12, the proposed rejection is not adopted.

#### **Ground 112.**

Requester submits on the middle of page 134 of the Request that claim 12 is unpatentable under 35 USC 103(a) as being obvious over Nesbitt (incorporating Molitor '637) in view of Research Disclosure. This proposed rejection is **not adopted**.

MPEP 2163.07(b) states that "[i]nstead of repeating some information contained in another document, an application may attempt to incorporate the content of another document or part thereof by reference to the document in the text of the specification."

Here, Nesbitt is proposed to disclose a coefficient of restitution for the golf ball of at least 0.770 by incorporation by reference of Molitor '637. Molitor '637 does disclose balls with coefficients of restitution greater than 0.770 at, for example, Example 1 and 2 (both with

Application/Control Number: 95/000,444  
Art Unit: 3993

Page 132

coefficients of restitution of 0.780). However, by its language, Nesbitt incorporates "a number of foamable compositions of a character which may be employed for one or both layers" of its golf ball. With this explicit language, the Examiner considers Nesbitt to incorporate "a part" of Molitor '637, the part dealing with "foamable compositions," and not the complete reference. Therefore, Nesbitt does not incorporate by reference to Molitor '637 golf balls with the required coefficient of restitution. Further, Research Disclosure does not disclose a coefficient of resitution. Because the combination of Nesbitt as modified by Research Disclosure fails to disclose a coefficient of restitution required by the language of claim 12, the proposed rejection is not adopted.

#### **Ground 113.**

Requester submits on the middle of page 108 to the middle of page 109 of the Request (although not provided in the Request the Examiner considers this rejection to be similar to that of Nesbitt in view of Horiuchi in view of Molitor '751 for claim 10) that claim 12 is unpatentable under 35 USC 103(a) as being obvious over Nesbitt in view of Horiuchi in further view of Molitor '751. This proposed rejection is **adopted with modification**.

As to claim 12, Nesbitt in view of Horiuchi in further view of Molitor '751 further disclose **wherein said golf ball has a coefficient of restitution of at least 0.770** ("Coefficient" of "Finished Ball Data" of "Table" of cols. 7 and 8 of Molitor '751). It would have been obvious to one of ordinary skill in the art at the time of the invention to further modify the golf ball of Nesbit as modified by Horiuchi as further modified by Molitor '751 by making the ball to have a

Application/Control Number: 95/000,444

Page 133

Art Unit: 3993

coefficient of restitution above 0.770 as disclosed by Molitor '751 so as to have optimum velocity.

**Ground 114.**

Requester submits on the middle of page 112 to the middle of page 113 of the Request (although not provided in the Request the Examiner considers this rejection to be similar to that of Nesbitt in view of Yabuki for claim 10) that claim 12 is unpatentable under 35 USC 103(a) as being obvious over Nesbitt in view of Yabuki in further view of Molitor '751. This proposed rejection is **adopted with modification.**

As to claim 12, Nesbitt in view of Yabuki in further view of Molitor '751 further disclose **wherein said golf ball has a coefficient of restitution of at least 0.770** ("Coefficient" of "Finished Ball Data" of "Table" of cols. 7 and 8 of Molitor '751). It would have been obvious to one of ordinary skill in the art at the time of the invention to further modify the golf ball of Nesbitt as modified by Yabuki as further modified by Molitor '751 by making the ball to have a coefficient of restitution above 0.770 as disclosed by Molitor '751 so as to have optimum velocity.

**Ground 115.**

Requester submits on the middle of page 114 to the middle of page 115 of the Request (although not provided in the Request the Examiner considers this rejection to be similar to that of Nesbitt in view of Statz for claim 10) that claim 12 is unpatentable under 35 USC 103(a) as

Application/Control Number: 95/000,444

Page 134

Art Unit: 3993

being obvious over Nesbitt in view of Statz in further view of Molitor '751. This proposed rejection is **adopted with modification**.

As to claim 12, Nesbitt in view of Statz in further view of Molitor '751 further disclose **wherein said golf ball has a coefficient of restitution of at least 0.770** ("Coefficient" of "Finished Ball Data" of "Table" of cols. 7 and 8 of Molitor '751). It would have been obvious to one of ordinary skill in the art at the time of the invention to further modify the golf ball of Nesbit as modified by Statz as further modified by Molitor '751 by making the ball to have a coefficient of restitution above 0.770 as disclosed by Molitor '751 so as to have optimum velocity.

**Ground 116.**

Requester submits on the middle of page 114 to the middle of page 115 of the Request (although not provided in the Request the Examiner considers this rejection to be similar to that of Nesbitt in view of Research Disclosure for claim 10) that claim 12 is unpatentable under 35 USC 103(a) as being obvious over Nesbitt in view of Research Disclosure in further view of Molitor '751. This proposed rejection is **adopted with modification**.

As to claim 12, Nesbitt in view of Research Disclosure in further view of Molitor '751 further disclose **wherein said golf ball has a coefficient of restitution of at least 0.770** ("Coefficient" of "Finished Ball Data" of "Table" of cols. 7 and 8 of Molitor '751). It would have been obvious to one of ordinary skill in the art at the time of the invention to further modify the golf ball of Nesbit as modified by Research Disclosure as further modified by Molitor '751

Application/Control Number: 95/000,444

Page 135

Art Unit: 3993

by making the ball to have a coefficient of restitution above 0.770 as disclosed by Molitor '751 so as to have optimum velocity.

**Ground 117.**

Requester submits on the bottom of page 132 of the Request that claim 12 is unpatentable under 35 USC 103(a) as being obvious over Nesbitt in view of Statz. This proposed rejection is **not adopted.**

MPEP 706.02(IV) states that "in a rejection based on 35 U.S.C. 103, the reference teachings must somehow be modified in order to meet the claims." The Examiner considers this language to mean, *inter alia*, that all limitations are disclosed in the applied references.

Here the claim goes to a golf ball having a coefficient of restitution of at least 0.770. In the proposed rejection Statz, the teaching reference, discloses (Request at top of page 133) this coefficient of restitution. A review of Statz, however, found that Statz does not disclose a golf ball coefficient of restitution of at least 0.770. No coefficient of restitution is disclosed in Statz. Further, no coefficient of restitution is disclosed in Nesbitt.

With no disclosed coefficient of restitution in either Nesbitt or Statz, the Examiner declines to ascribe a specific coefficient of restitution for the golf ball. Because the combination of Nesbitt and Statz fails to disclose a coefficient of restitution required by the language of claim 12, the proposed rejection is not adopted.

**Ground 118.**

Application/Control Number: 95/000,444  
Art Unit: 3993

Page 136

Requester submits on the bottom of page 132 of the Request that claim 12 is unpatentable under 35 USC 103(a) as being obvious over Nesbitt in view of Research Disclosure. This proposed rejection is **not adopted**.

MPEP 706.02(IV) states that "in a rejection based on 35 U.S.C. 103, the reference teachings must somehow be modified in order to meet the claims." The Examiner considers this language to mean, *inter alia*, that all limitations are disclosed in the applied references.

Here the claim goes to a golf ball having a coefficient of restitution of at least 0.770. In the proposed rejection Research Disclosure, the teaching reference, discloses (Request at top of page 133) this coefficient of restitution. A review of Research Disclosure, however, found that Research Disclosure does not disclose a golf ball coefficient of restitution of at least 0.770. No coefficient of restitution is disclosed in Research Disclosure. Further, no coefficient of restitution is disclosed in Nesbitt.

With no disclosed coefficient of restitution in either Nesbitt or Research Disclosure, the Examiner declines to ascribe a specific coefficient of restitution for the golf ball. Because the combination of Nesbitt and Research Disclosure fails to disclose a coefficient of restitution required by the language of claim 12, the proposed rejection is not adopted.

**Ground 119.**

Requester submits on the bottom of page 135 of the Request that claim 12 is unpatentable under 35 USC 102(b) as anticipated by Sullivan '831. This proposed rejection is **adopted**.

Application/Control Number: 95/000,444  
Art Unit: 3993

Page 137

As to claim 12, Sullivan '831 further discloses **wherein said golf ball has a coefficient of restitution of at least 0.770** ("golf ball has . . . a coefficient of restitution of at least 0.770" of col. 3, lines 47-56).

### *Claim 13*

#### **Ground 120.**

Requester submits on middle of page 110 to the top of page 112 of the Request (although not provided in the Request the Examiner considers this rejection to be similar to that of Nesbitt in view of Horiuchi for claim 10) that claim 13 is unpatentable under 35 USC 103(a) as being obvious over Nesbitt in view of Horiuchi in further view of Sullivan '814. This proposed rejection is **adopted with modification**.

As to Claim 13, the limitations of claim 10 are disclosed as described above. Not disclosed is wherein said outer cover has a Shore C hardness of about 74. However, Sullivan '814 discloses **wherein said outer cover has a Shore C hardness of about 74** ("77" or "75" of "Shore C Hardness" of "TABLE 2 - continued" of cols. 15 and 16). It would have been obvious to one of ordinary skill in the art at the time of the invention to further modify the golf ball of Nesbit as modified by Horiuchi by having a Shore C hardness value of about 74 for the outer cover of the ball as disclosed by Sullivan '814 so as to have a ball with backspin and cut resistance (Sullivan '814 at col. 3, lines 45-58).

#### **Ground 121.**



Application/Control Number: 95/000,444  
Art Unit: 3993

Page 138

Requester submits on middle of page 104 to the middle of page 105 of the Request (although not provided in the Request the Examiner considers this rejection to be similar to that of Nesbitt in view of Yabuki for claim 10) that claim 13 is unpatentable under 35 USC 103(a) as being obvious over Nesbitt in view of Yabuki in further view of Sullivan '814. This proposed rejection is **adopted with modification**.

As to Claim 13, the limitations of claim 10 are disclosed as described above. Not disclosed is wherein said outer cover has a Shore C hardness of about 74. However, Sullivan '814 discloses **wherein said outer cover has a Shore C hardness of about 74** ("77" or "75" of "Shore C Hardness" of "TABLE 2 - continued" of cols. 15 and 16). It would have been obvious to one of ordinary skill in the art at the time of the invention to further modify the golf ball of Nesbit as modified by Yabuki by having a Shore C hardness value of about 74 for the outer cover of the ball as disclosed by Sullivan '814 so as to have a ball with backspin and cut resistance (Sullivan '814 at col. 3, lines 45-58).

**Ground 122.**

Requester submits on middle of page 114 to the middle of page 115 of the Request (although not provided in the Request the Examiner considers this rejection to be similar to that of Nesbitt in view of Statz for claim 10) that claim 13 is unpatentable under 35 USC 103(a) as being obvious over Nesbitt in view of Statz in further view of Sullivan '814. This proposed rejection is **adopted with modification**.

As to Claim 13, the limitations of claim 10 are disclosed as described above. Not disclosed is wherein said outer cover has a Shore C hardness of about 74. However, Sullivan

Application/Control Number: 95/000,444

Page 139

Art Unit: 3993

'814 discloses **wherein said outer cover has a Shore C hardness of about 74** ("77" or "75" of "Shore C Hardness" of "TABLE 2 - continued" of cols. 15 and 16). It would have been obvious to one of ordinary skill in the art at the time of the invention to further modify the golf ball of Nesbit as modified by Statz by having a Shore C hardness value of about 74 for the outer cover of the ball as disclosed by Sullivan '814 so as to have a ball with backspin and cut resistance. (Sullivan '814 at col. 3, lines 45-58).

**Ground 123.**

Requester submits on middle of page 114 to the middle of page 115 of the Request (although not provided in the Request the Examiner considers this rejection to be similar to that of Nesbitt in view of Research Disclosure for claim 10) that claim 13 is unpatentable under 35 USC 103(a) as being obvious over Nesbitt in view of Research Disclosure in further view of Sullivan '814. This proposed rejection is **adopted with modification**.

As to Claim 13, Nesbitt as modified by Research Disclosure as further modified by Sullivan '814 disclose **wherein said outer cover has a Shore C hardness of about 74** ("77" or "75" of "Shore C Hardness" of "TABLE 2 - continued" of cols. 15 and 16 of Sullivan '814). It would have been obvious to one of ordinary skill in the art at the time of the invention to further modify the golf ball of Nesbit as modified by Research Disclosure by having a Shore C hardness value of about 74 for the outer cover of the ball as disclosed by Sullivan '814 so as to have a ball with backspin and cut resistance (Sullivan '814 at col. 3, lines 45-58).

**Ground 124.**

Application/Control Number: 95/000,444  
Art Unit: 3993

Page 140

Requester submits on the middle of page 136 of the Request that claim 13 is unpatentable under 35 USC 103(a) as being obvious over Nesbitt in view of Horiuchi in further view of Molitor '751. This proposed rejection is **adopted with modification**.

As to Claim 13, Nesbitt in view of Horiuchi in further view of Molitor '751 further disclose **wherein said outer cover has a Shore C hardness of about 74** (from "golf ball cover having a shore C hardness within the range of 70 to 85 . . . most preferably 72 to 76" of col. 4, lines 18-25). It would have been obvious to one of ordinary skill in the art at the time of the invention to further modify the golf ball of Nesbit as modified by Horiuchi and further modified by Molitor '751 by having a Shore C hardness value of about 74 for the outer cover of the ball as disclosed by Molitor '751 so as to have a ball with better durability than balata-covered balls yet approaching or exceeding their playability characteristics (Molitor '751 at abstract).

**Ground 125.**

Requester submits on the middle of page 136 of the Request (although not provided in the Request the Examiner considers this rejection to be similar to that of Nesbitt in view of Horiuchi) that claim 13 is unpatentable under 35 USC 103(a) as being obvious over Nesbitt in view of Yabuki in further view of Molitor '751. This proposed rejection is **adopted with modification**.

As to Claim 13, Nesbitt in view of Yabuki in further view of Molitor '751 further disclose **wherein said outer cover has a Shore C hardness of about 74** (from "golf ball cover having a shore C hardness within the range of 70 to 85 . . . most preferably 72 to 76" of col. 4, lines 18-25). It would have been obvious to one of ordinary skill in the art at the time of the

Application/Control Number: 95/000,444

Page 141

Art Unit: 3993

invention to further modify the golf ball of Nesbit as modified by Yabuki and further modified by Molitor '751 by having a Shore C hardness value of about 74 for the outer cover of the ball as disclosed by Molitor '751 so as to have a ball with better durability than balata-covered balls yet approaching or exceeding their playability characteristics (Molitor '751 at abstract).

**Ground 126.**

Requester submits on the middle of page 136 of the Request (although not provided in the Request the Examiner considers this rejection to be similar to that of Nesbitt in view of Horiuchi) that claim 13 is unpatentable under 35 USC 103(a) as being obvious over Nesbitt in view of Statz in further view of Molitor '751. This proposed rejection is **adopted with modification.**

As to Claim 13, Nesbitt in view of Statz in further view of Molitor '751 further disclose **wherein said outer cover has a Shore C hardness of about 74** (from "golf ball cover having a shore C hardness within the range of 70 to 85 . . . most preferably 72 to 76" of col. 4, lines 18-25). It would have been obvious to one of ordinary skill in the art at the time of the invention to further modify the golf ball of Nesbit as modified by Statz and further modified by Molitor '751 by having a Shore C hardness value of about 74 for the outer cover of the ball as disclosed by Molitor '751 so as to have a ball with better durability than balata-covered balls yet approaching or exceeding their playability characteristics (Molitor '751 at abstract).

**Ground 127.**

Application/Control Number: 95/000,444  
Art Unit: 3993

Page 142

Requester submits on the middle of page 136 of the Request (although not provided in the Request the Examiner considers this rejection to be similar to that of Nesbitt in view of Horiuchi) that claim 13 is unpatentable under 35 USC 103(a) as being obvious over Nesbitt in view of Research Disclosure in further view of Molitor '751. This proposed rejection is **adopted with modification**.

As to Claim 13, Nesbitt in view of Research Disclosure in further view of Molitor '751 further disclose **wherein said outer cover has a Shore C hardness of about 74** (from "golf ball cover having a shore C hardness within the range of 70 to 85 . . . most preferably 72 to 76" of col. 4, lines 18-25). It would have been obvious to one of ordinary skill in the art at the time of the invention to further modify the golf ball of Nesbitt as modified by Research Disclosure and further modified by Molitor '751 by having a Shore C hardness value of about 74 for the outer cover of the ball as disclosed by Molitor '751 so as to have a ball with better durability than balata-covered balls yet approaching or exceeding their playability characteristics (Molitor '751 at abstract).

#### **Ground 128.**

Requester submits on the middle of page 138 of the Request that claim 13 is unpatentable under 35 USC 102(b) as being anticipated by Sullivan '831. This proposed rejection is **adopted with modification**.

As to Claim 13, Sullivan '831 further discloses **wherein said outer cover has a Shore C hardness of about 74** (from Table 17 of col. 38 at "Outer Cover Layer" of "Hardness (Shore C/D)" of "71/46").

Application/Control Number: 95/000,444  
Art Unit: 3993

Page 143

*Claim 14*

**Ground 129.**

Requester submits on the top of page 139 of the Request that claim 14 is unpatentable under 35 USC 103(a) as obvious over Nesbitt in view of Yabuki. This proposed rejection is **adopted.**

As to Claim 14, Nesbitt in view of Yabuki further disclose **wherein said outer cover is about 0,030 inches in thickness** (Examiner considers 0,030 to be 0.030; from “thickness of the outer layer . . . may be in a range of 0.020 inches and 0.100 inches” of col. 3, lines 22-25 of Nesbitt). It would have been obvious to one of ordinary skill in the art at the time of the invention to further modify the golf ball of Nesbit as modified by Yabuki by having the outer cover at a thickness of about 0.030 as disclosed by Nesbitt so as to have a ball with a minimum diameter of 1.680 inches (Nesbitt at col. 3, lines 8-15).

**Ground 130.**

Requester submits on the top of page 139 of the Request that claim 14 is unpatentable under 35 USC 103(a) as obvious over Nesbitt in view of Statz. This proposed rejection is **adopted.**

As to Claim 14, Nesbitt in view of Statz further disclose **wherein said outer cover is about 0,030 inches in thickness** (Examiner considers 0,030 to be 0.030; from “thickness of the outer layer . . . may be in a range of 0.020 inches and 0.100 inches” of col. 3, lines 22-25 of

Application/Control Number: 95/000,444

Page 144

Art Unit: 3993

Nesbitt). It would have been obvious to one of ordinary skill in the art at the time of the invention to further modify the golf ball of Nesbit as modified by Statz by having the outer cover at a thickness of about 0.030 as disclosed by Nesbitt so as to have a ball with a minimum diameter of 1.680 inches (Nesbitt at col. 3, lines 8-15).

**Ground 131.**

Requester submits on the top of page 139 of the Request that claim 14 is unpatentable under 35 USC 103(a) as obvious over Nesbitt in view of Research Disclosure. This proposed rejection is **adopted**.

As to Claim 14, Nesbitt in view of Research Disclosure further disclose **wherein said outer cover is about 0,030 inches in thickness** (Examiner considers 0,030 to be 0.030; from "thickness of the outer layer . . . may be in a range of 0.020 inches and 0.100 inches" of col. 3, lines 22-25 of Nesbitt). It would have been obvious to one of ordinary skill in the art at the time of the invention to further modify the golf ball of Nesbit as modified by Research Disclosure by having the outer cover at a thickness of about 0.030 as disclosed by Nesbott so as to have a ball with a minimum diameter of 1.680 inches (Nesbitt at col. 3, lines 8-15).

**Ground 132.**

Requester submits on the bottom of page 139 to top of page 140 of the Request that claim 14 is unpatentable under 35 USC 102(b) as anticipated by Sullivan '831. This proposed rejection is **adopted**.

Application/Control Number: 95/000,444

Page 145

Art Unit: 3993

As to Claim 14, Nesbitt in view of Research Disclosure further discloses **wherein said outer cover is about 0,030 inches in thickness** (Examiner considers 0,030 to be 0.030; from "more desirably 0.03 to 0.06 inches" of Sullivan '831 at col. 15, lines 25-35).



Application/Control Number: 95/000,444

Page 146

Art Unit: 3993

All correspondence relating to this *inter partes* reexamination proceeding should be directed as follows:

By EFS: Registered users may submit via the electronic filing system, EFS-Web, at:  
<https://sportal.uspto.gov/authenticate/authenticateuserlocalepf.html>.

By Mail: Mail Stop *Inter Partes* Reexam  
ATTN: Central Reexamination Unit  
Commissioner for Patents  
U.S. Patent & Trademark Office  
P.O. Box 1450  
Alexandria, VA 22313-1450

By FAX: (571) 273-9900  
Central Reexamination Unit

By hand: Customer Service Window  
Randolph Building  
401 Dulany St.  
Alexandria, VA 22314

For EFS-Web transmissions, 37 CFR 1.8(a)(1) (i)(C) and (ii) states that correspondence (except for a request for reexamination and a corrected or replacement request for reexamination) will be considered timely filed if: (a) it is transmitted via the Office's electronic filing system in accordance with 37 CFR 1.6(a)(4); and, (b) includes a certificate of transmission for each piece of correspondence stating the date of transmission, which is prior to the expiration of the set period of time in the Office action.

Questions concerning status of this proceeding should be directed to the Central Reexamination Unit at telephone number (571) 272-7705. The CRU's fax number is: 571.273.9900. If attempts to the CRU are unsuccessful, the Examiner's Supervisor, Andres (Andy) Kashnikow, can be reached at 571.272.4361. Both the Patent Owner and the Third Party Requester are reminded that interviews are prohibited in *inter partes* reexamination proceedings that discuss the merits. Questions on strictly procedural matters may be discussed (*see* MPEP 2685).

/Jeffrey L. Gellner/  
AU 3993, Central Reexamination Unit  
(571) 272-6887

Conferees:

*JK*  
*JF*